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ABSTRACT BOOK

1 - THE IMPACT OF PREGNANCY AND CHILDBIRTH ON STRESS URINARY INCONTINENCE IN WOMEN PREVIOUSLY SUBMITTED TO MID-URETHRAL SLING: A SYSTEMATIC REVIEW AND METANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

There is no guideline or clinical consensus concerning the mid-urethral sling (MUS) operation for stress urinary incontinence (SUI) and future pregnancies and scientific evidence to substantiate any recommendation is scarce. For young women of reproductive age experiencing SUI, it has been recommended to postpone surgical intervention until after they have completed childbirth. This is due to concerns about the potential recurrence of SUI or complications that may arise during pregnancy and delivery[1]. Moreover, caesarian section has been commonly proposed as route of delivery in case of pregnancy after MUS surgical implantation[2]. The aim of this systematic review and metanalysis is to evaluate the impact of pregnancy and of delivery on SUI in women who previously sustained a MUS surgery.

MATERIALS AND METHODS

We performed a systematic review and meta-analysis, according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines and selected seven publications for inclusion in the analysis (last search date: December 1, 2023). The protocol was registered in PROSPERO (CRD42024497349). The data extracted included: authors' names, year of publication, country, study design, age of patients, parity, body mass index (BMI), type of UI, UI assessment, type of MUS surgery, failure rate, reoperation rate, interval between surgery and pregnancy, continence before and during pregnancy, mode of delivery, incontinence after delivery, complications related to surgical procedure, reoperation rate, time to follow-up. Data items were MUS surgery failure rate after childbirth and reoperation rate for SUI after childbirth. Categorical variables were expressed as absolute and relative (percentage) values. A proportional meta-analysis was performed for several outcome measures (MUS failure rate and reoperation rate for SUI recurrence) and Forest plots were used to graphically display the estimated results. A random effects model was used for the statistical pooling of data. Results were reported as a pooled percentage with related 95% confidence intervals (95%-CI). Forest plots were used to display RRs and 95% CI for the analyzed outcomes. Heterogeneity between studies was based on the Higgins I^2 index, with I^2 values of >50% being considered to indicate the presence of heterogeneity. Funnel plot for publication bias was not assessed using Egger's because articles were less than as suggested by the Cochrane Manual. Metanalysis was performed using Review Menager version 5.4.1 software (Cochrane Training) and Jamovi Software version 2.3.28.0.

RESULTS

We identified 334 (EMBASE) and 79 (PubMed) studies. Seven studies were selected for inclusion in the systematic review. The risk of bias analysis performed for the 7 nonrandomized studies, showed that all 7 studies had a moderate risk of bias. Seven studies including 401 women who delivered and that have been previously submitted to SUI surgical treatment were included in this systematic review and metanalysis. Median age of the overall sample size ranged from 33.0 years-old to 42.0 years-old. Median BMI was reported only in 2 studies, ranging from 23.0 to 25.0 Kg/m2. Interval between index surgery and pregnancy ranged between 19.0 and 108.0 months. Concerning the mode of delivery, cesarean section was adopted in the 43% up to the 66.7% of women. Overall follow-up ranged between 13.8 and 129.6 months. The assessment of failure rate after delivery was reported subjectively as a dichotomous variable (yes/no) in all the studies. The overall SUI recurrence rate was reported between the 18.0% and 26.0% with a pooled value of 22% in women who delivered after MUS surgery (95% confidence interval [CI]: 18.0%−26.0%; I^2 = 0%). SUI reintervention rate was between the 2% and the 8% with a pooled value of 5% (95% CI: 2.0%−8.0%; I^2 = 47.34%) in the included studies. According to the metanalysis comparing women who delivered or not after MUS, three studies were included with 329

women who delivered (both vaginally and by caesarian section) after MUS and 860 women who did not deliver after MUS. SUI recurrence was not statistically different in the two groups (RR 1.01, 95% CI 0.73—1.40; p = 0.96), with a related I2—test of 41% (p = 0.18) and in SUI reintervention (RR 1.45, 95% CI 0.91−2.30; p = 0.12), with a related I2—test of 0% (p = 0.38) demonstrating homogeneity among studies. Moreover, in MUS failure rate comparing delivery mode 6 studies with available data were included in the analysis. When data were available, women with SUI recurrence before pregnancy were excluded from the analysis; 131 women who had vaginal delivery and 163 women who had cesarian section were included. There was no difference between women who delivered vaginally or by caesarian section both for recurrence of SUI (RR 1.24, 95%CI 0.77-2.01; p = 0.37 and I^2—test of 0% p = 0.60) and reintervention (RR 1.61, 95% CI 0.76−3.42; p = 0.22 and I^2—test of 0% p = 0.47). BMI ≥ 30 kg/m2, urinary incontinence (UI) before and during pregnancy emerged as risk factors for postpartum UI relapse. Overall, most reported complications were UTI (range 0%−5.3%), voiding dysfunction (range 0%−5.3%) and persistent/de novo OAB/UUI symptoms (range 0%−54.0%). Vaginal erosion of the tape was not reported in any study. Pelvic or abdominal pain was reported in only one study in the 9% of cases

INTERPRETATION OF RESULTS

This metanalysis demonstrated a SUI recurrence rate of the 22% (95% CI: 18%−26%) and a SUI reintervention rate of the 5% (95% CI: 2%−8%) after childbirth in women previously submitted to MUS. Moreover, the results of this metanalysis showed that there is no difference in SUI relapse and reintervention between women who had childbirth after MUS procedure and women who did not have childbirth after MUS.

Physicians retain that pregnancy itself and delivery could affect the results of anti-incontinence procedure. In addition, performing MUS at a young age may increase the risk of recurrence and the risk of long-term complications. Contrary to this hypothesis, the result of our metanalysis showed that MUS failure (RR 1.01, 95% CI 0.73−1.40; p = 0.96) and reintervention (RR 1.45, 95% CI 0.91−2.30; p = 0.12) for SUI relapse are not dependent from childbirth. Moreover, in our study, the route of delivery did not affect the efficacy of MUS surgery. Indeed, we did not identify any difference between women who delivered vaginally and women who had caesarean section after MUS implantation both for SUI relapse (RR 1.24, 95% CI0.77−2.01; p = 0.37) and for anti-incontinence reintervention (RR 1.61, 95% CI 0.76−3.42; p = 0.22).

A BMI ≥ 30 Kg/m 2, UI before and during pregnancy emerged as factors associated with postpartum UI in women who previously had MUS.

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CONCLUSIONS

The results of this metanalysis show that childbirth do not affect SUI relapse or reintervention in women previously submitted to MUS. Moreover, in the same population of patients, no difference where highlighted concerning the mode of delivery for the outcome SUI relapse or reintervention, and previous MUS surgery may not be an appropriate indication for caesarean birth in subsequent pregnancy. MUS does not increase complications in women who had childbirth after the anti-incontinence procedure at long term follow-up. Even if the results of our metanalysis does not highlight pregnancy, childbirth and mode of delivery as factors impacting MUS efficacy and safety, evidence are insufficient to make widespread recommendations.

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2 - DEVELOPMENT AND VALIDATION OF A PREDICTION MODEL FOR OBSTETRIC ANAL SPHINCTER INJURY IN NULLIPAROUS WOMEN WITH SPONTANEOUS AND OPERATIVE VAGINAL DELIVERY

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TITLE

Development and validation of a prediction model for obstetric anal sphincter injury in nulliparous women with spontaneous and operative vaginal delivery

OBJECTIVES

We aimed to develop models that would be directly applicable in daily practice and therefore developed and validated prediction models for obstetric anal sphincter injury (OASI) in nulliparous women; one for spontaneous vaginal delivery and one for instrumental delivery, both with special interest in the association of mediolateral episiotomy (MLE).

POPULATION

Nationwide data from the Netherlands Perinatal Registry, describing a cohort of nulliparous women who delivered a singleton live born infant in cephalic presentation at term from 2016- 2020, with spontaneous or operative vaginal delivery.

METHODS

Based on literature and on clinical expertise a set of potential predictors was defined and derived from the national perinatal registry dataset. Risk indicators derived from the cohorts from 2016 till 2019 were identified using logistic regression with backward step-wise variable selection. A predictive model was constructed on this cohort for the risk of OASI, and nomograms provided. Internal validation was performed using bootstrapping. Temporal external validation was performed on the cohort from 2020.

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RESULTS

The average risk of OASI in 171 046 nulliparous women with **spontaneous** delivery was 4.1%. Ten risk factors were retained in the model. Higher fetal birth weight, longer duration of the 2nd stage of labour, occipitoposterior presentation, Asian ethnicity, higher maternal age, higher gestational age and neonatal male gender were associated with an increased rate of OASI. MLE, induction of labour and epidural analgesia were associated with a decreased rate. The final model had a moderate discriminative ability (AUC 0.67, 95% CI 0.67-0.68). The calibration was excellent. On external temporal validation the AUC was 0.65 (95% CI 0.64- 0.67). The average risk of OASI in 37 547 nulliparous women with **operative vaginal** delivery was 3.5%. Seven risk factors were retained in the model. Higher fetal birth weight, longer duration of the 2nd stage of labour, occipitoposterior presentation, Asian ethnicity and higher gestational age were associated with an increased rate of OASI. MLE and epidural analgesia were associated with a decreased rate. The final model had moderate discrimination (AUC 0.68, 95% CI 0.67-0.70). The calibration was excellent. On external temporal validation the AUC was 0.68 (95% CI 0.65-0.71). Separate development of a model in which both parity and mode of delivery retained in the model achieved a fair discrimination with an AUC of 0.73

CONCLUSIONS

A prediction model for OASI was developed and validated for nulliparous women with spontaneous vaginal birth and women with operative vaginal delivery. These models can form a basis for counselling about the risk of OASI and the possible role of MLE to decrease the risk of this unwanted outcome of vaginal delivery.

3 - OBSTETRIC ANAL SPHINCTER INJURIES DETECTION BY DIGITAL RECTAL EXAMINATION AND IMPEDANCE SPECTROSCOPY: POST-HOC ANALYSIS OF THE RESULTS FROM A PROSPECTIVE, COMPARATIVE, MULTICENTRE CLINICAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIs) pose a diagnostic challenge in maternal care, with clinical guidelines recommending primary repair within 8-12 hours post-delivery for optimal outcomes[1]. While endoanal ultrasonography (EAUS) is the gold standard for detecting these injuries, its limited availability contrasts with the widespread use of digital rectal examination (DRE), which, though accessible, is subjective and depends on the examiner's skill. To improve OASI detection in labor wards, the ONIRY system, a machine learning (ML)-assisted impedance spectroscopy tool, has been developed. This paper presents a post-hoc analysis comparing the clinical performance of DRE and the ONIRY method, using EAUS as the reference standard, to assess whether ONIRY offers a significant improvement in routine obstetric practice.

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MATERIALS AND METHODS

This work analyses data from a prospective, comparative, multicenter, international study registered on ClinicalTrials.gov. The study was designed to validate the clinical performance and safety of the ONIRY device, an impedance spectroscopy tool, for detecting OASIs when compared with DRE, considering EAUS as the reference diagnostic method. This study followed the clinical phase of the trial with modelling and analysis using ML techniques. In the clinical phase, 152 women within eight weeks postpartum were enrolled in five European centres from May 2021 to December 2022. Eligible participants included both primiparous and multiparous women aged 18 to 49 who had undergone vaginal delivery (spontaneous or assisted) of a live, singleton fetus at a gestational age of 34 weeks or greater. Patients were categorized into two groups: Group I included women with either no perineal tear or first- or second-degree tears (no OASI detected), and Group II comprised those with third- or fourth-degree tears (OASI detected). Following this classification, each subject was assessed using DRE and the impedance test with the ONIRY system. Machine learning-assisted impedance spectroscopy was evaluated using the collected impedance data with EAUS as a reference across 10 iterations of 10-fold cross-validation. In each iteration, every patient was compared with the reference only once. The ONIRY system consists of an impedance spectrometer and an endoanal probe, which performs measurements in the supine gynecological patient's position in approximately one minute. It analyses the electrical impedance of perineal tissues under current excitation, using an ML model for parameters deep analysis and assessment. The system outputs a "PASS" for no OASI detection or "REFER" for suspected OASI, also indicating the probable position of the injury. The diagnostic accuracy of the ONIRY system and DRE, using the EAUS as a reference method, was evaluated for each participant. Success (True Positive or True Negative) and Failure (False Positive or False Negative) rates were analyzed to assess the performance (accuracy, specificity, sensitivity) of each diagnostic approach. Institutional Review Board approval was obtained.

RESULTS

Mean age of the study population was 31.3 ± 4.6. Median time between the index delivery the ONIRY examination and the EAUS examination was 14 days (Range Min/Max 0-57). Ninety-one women were included in the Group I (no OASI detected) and 61 women were included in the Group II (OASI detected).

The performance of DRE in identifying OASIs was assessed. The findings indicated an accuracy of 67.8%, reflecting the proportion of total diagnoses (both positive and negative) that were correctly identified. Sensitivity, which measured the ability of DRE to correctly identify those with the OASI presence (true positive rate), was relatively low at 44.3%. On the other hand, specificity, measuring the ability to correctly identify those without the condition (true negative rate), was higher at 83.5%.

The machine learning-assisted impedance spectroscopy was evaluated by comparing the trained ML models' output with EAUS results. The system achieved an accuracy of 87.0% ± 0.5%, which represents a significant enhancement in the overall ability to diagnose OASIs correctly. The sensitivity of the ONIRY system was 90.6% ± 2.0%, indicating its strong capability to identify true positive cases of OASIs effectively. Specificity was robust at 84.6% ± 1.9%, suggesting that the ONIRY system maintains a high level of accuracy in confirming the absence of injuries, similar to DRE.

The accuracy of the two compared methods in detecting OASI in each OASIS classification grades 3a, 3b, 3c, and 4 is 24.0%, 53.8%, 77.8% 0.0% for the DRE and 81.2%, 90.8%, 95.6% and 60% for the ONIRY system respectively.

The comparison of receiver operating characteristic (ROC) curves for ONIRY and DRE, along with their respective area under the curve (AUC) values, is presented in Figure 1.

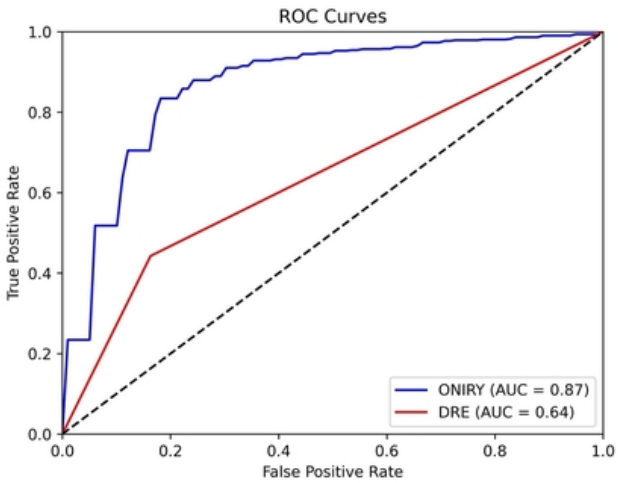

Figure 1. Comparison of ROC curves for ONIRY and DRE.

INTERPRETATION OF RESULTS

This study underscores the diagnostic superiority of the ONIRY method over traditional digital rectal examination (DRE) for detecting obstetric anal sphincter injuries (OASIs). While DRE showed limited sensitivity (44.3%), missing many true OASI cases, the ONIRY system demonstrated significantly higher sensitivity (90.6%) and accuracy (87.0%). DRE was more reliable in ruling out injuries than in detecting them, particularly struggling with accurately assessing the extent of external sphincter damage, which is crucial for determining the appropriate level of care.

The superior performance of the ONIRY method is critical, as undiagnosed or misclassified OASIs can lead to severe complications, including anal incontinence and reduced quality of life[2]. Early detection is essential not only for proper repair but also for managing postpartum complications. The ONIRY system's operator-independent nature and quick application make it particularly valuable in labor settings where advanced imaging like EAUS isn't available, helping ensure timely and accurate diagnoses within the critical window after delivery.

The integration of a machine learning model within the ONIRY system represents a significant advancement in obstetric diagnostics, showing promise for improving clinical outcomes by accurately detecting anatomical changes in impedance values. However, the study also has limitations, including the potential impact of prior primary repairs on the ONIRY system's accuracy. Further research in broader clinical settings is needed to validate these findings.

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CONCLUSIONS

The performance of DRE in detecting OASI is insufficient. ML-assisted impedance spectroscopy appeared to be a more precise method for rapid detection of OASIs immediately post-delivery. With its higher accuracy and simple application, it holds the promise of becoming an essential tool in obstetric care, potentially reducing the incidence of long-term complications associated with OASI.

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4 - THE MECHANOSENSORY TRPV4 ION CHANNEL INDUCES BLADDER HYPERACTIVITY THROUGH INFLAMMATORY MEDIATORS

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder syndrome (OAB) is a common urological condition affecting hundreds of millions of people worldwide. Its main characteristic is frequent, urgent urination, often accompanied by incontinence and nocturia. These symptoms significantly impair the quality of life for those affected and place a substantial burden on society and the economy. A common urodynamic finding in patients with OAB is detrusor overactivity, which is believed to be due to dysfunction in various layers of the bladder (mucosa, detrusor). One important function of these layers is to monitor the bladder's fullness, a process known as mechanotransduction, during which various ion channels sense the wall tension. One of the most significant ion channels involved in this process is the Transient Receptor Potential Vanilloid 4 (TRPV4), whose activation leads to the urge to urinate. However, the details of this signaling pathway are not fully understood. We hypothesize that uncontrolled functioning of this signaling pathway may lead to the development of symptoms. In our research, we aimed to thoroughly investigate the TRPV4-mediated signaling pathway to identify new therapeutic intervention points for the treatment of functional urological conditions associated with detrusor hyperactivity.

MATERIALS AND METHODS

For our experiments, we used adult male and female wild-type and gene knockout (cyclooxygenase 1 (COX) knock-out) mice. We detected the pressure changes occurring in the bladders of living animals during filling by using transurethral cystometry. During myography experiments, we measured the contractile force in tissue samples prepared from the bladder under a microscope in the presence of various agonists and antagonists under ex vivo conditions. Using an ELISA kit, we determined the presence and quantity of various factors released during TRPV4 activation.

RESULTS

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Our results show that TRPV4 activation significantly enhances bladder function. Furthermore, the hyperactivity caused by the TRPV4 ion channel was significantly reduced in COX1-KO animals and completely disappeared in the presence of the non-selective COX enzyme inhibitor indomethacin. TRPV4 activation led to the release of a significant amount of prostaglandin E2 (PGE2) and thromboxane A2 (TxA2). Inhibition of the thromboxane A2 receptor (TP receptor) significantly alleviated TRPV4-mediated bladder overactivity, whereas inhibition of PGE2 receptors did not affect bladder activity.

INTERPRETATION OF RESULTS

Activation of the mechanosensitive TRPV4 ion channel, which is abundantly present in the bladder wall, leads to increased bladder function. Surprisingly, the mediators of this process are prostanoids (PGE2, TxA2), well-known from inflammatory processes, which are released in large amounts upon TRPV4 activation. The synthesis of prostanoids is carried out by the cyclooxygenase enzyme, which has two subtypes: the constitutively active COX1 and the inducible COX2. We found that both subtypes of the cyclooxygenase enzyme are involved in the production of these substances in the urinary bladder during mechanosensory processes. The specific detrusor activation primarily occurs via the signaling pathway associated with the TxA2 receptor, as inhibiting this pathway results in a significant reduction of the TRPV4-mediated bladder-enhancing effect. Interestingly, the receptors for PGE2, which is also released in large quantities, do not participate in this process.

CONCLUSIONS

Based on our investigations, we can conclude that the TRPV4 ion channel, which is activated by increasing wall tension in the bladder wall, induces detrusor contraction through the release of prostanoids. Elevated levels of these inflammatory factors have also been identified as biomarkers in OAB, suggesting that the overactivity of the process we

described may lead to increased prostanoid levels in the urine of patients with OAB. In our experiments, we successfully identified a novel signaling pathway whose increased activation leads to detrusor overactivity. We hope that these signaling points may serve as pharmacological targets for the treatment of conditions associated with detrusor overactivity, such as OAB.

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5 -THE EFFECT OF MESENCHYMAL STEM CELL TREATMENT ON NEUROINFLAMMATION IN LPS/PS INDUCED IC RAT MODEL

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INTRODUCTION

Interstitial cystitis (IC) is a syndrome characterized by sudden urination sensation, frequent urination, pelvic pain and increased nighttime urination frequency in the absence of a bacterial infection or a known pathology. Whether the etiology of IC is still not elucidated clearly yet, mast cell activation leading to neuroinflammation, and tissue injury of the bladder wall are the main mechanisms in the pathophysiology. Mesenchymal Stem cell-based therapy is a promising treatment of tissue injury in several clinical conditions. Studies on the effect of mesenchymal stem cell therapy on the central sensitization processes in the formation of chronic inflammation and chronic pain are limited in the literature.

OBJECTIVE

The aim of this thesis study was to examine the histopathologic changes in the bladder and nervous system after mesenchymal stem cell therapy in IC model in rats.

MATERIAL AND METHODS

For the study, the control group, IC group and mesenchymal stem cell (MSC) treatment group were formed to include 8 Winstar rats (6-8 weeks old). For the development of chronic IC model in rats, Protamine/Lipopolysaccharide was administered intravesically for 5 weeks (in IC group and MSC treatment group). Human umbilical cord mesenchymal stem cells (UC-MSC) were injected into the bladder wall (in only MSC treatment group). One week after UC-MSC (1.2 × 106 cells suspended in 0.2 ml phosphate buffered saline (PBS)) administration, the rats were sacrificed, and their bladders and spinal cords (L6-S1) were embedded in paraffin. Bladder inflammation score from bladder paraffin cuts was examined by hematoxylin and eosin staining, and mast cells were examined by toluidine blue. Anti-Iba1 and anti-TNFα pro-inflammatory mediators were examined in immunohistochemistry analysis from spinal cord paraffin incisions. Animal study ethical approval board was taken for the study (04.11.22/62). All statistical analyses were performed using IBM SPSS Statistics 25.0 (IBM Corporation, USA).

RESULTS

H-E staning results showed reduced bladder inflamation scores in MSC group than IC group ($p<0.001$) and similar scores between MSC and control group ($p=0.132$), also control and IC group bladder inflammation scores were significantly different ($p=0.039$) (Figure 1, Table 1). Mast cell count was also different between groups ($p<0.001$), mast cell number was decreased in MSC group then IC group ($p=0.025$) and similar to control group ($p=0.314$) (Figure 2, Table 1). Spinal cord immunohistochemical staining showed decreased TNF-alfa levels in MSC group comparing to IC group ($p=0.018$) and similar in MSC group and control group ($p=1.0$). Furthermore IBA-1 levels were also reduced in MSC group than IC ($p=0.026$), and similar to control group ($p= 1.0$) (Figure 3, Table 1).

CONCLUSION

The histopathological improvement that we observed in the bladder and nervous system after MSC therapy in the IC model in rats is promising in the management of BPS/IC. Further studies are necessary to understand the pathophysiologic mechanisms and to develop specific management strategies for BPS/IC.

KEY WORDS:

Interstitial cystitis, chronic pelvic pain, stem cell therapy, pain sensitization

Figure 1. Representative micrographs of all experimental groups. a and b: Control group; c and d: Experimental group; e and f: Treatment group. E: Urothelial layer; arrow: Structurally intact urothelium; arrowhead: Shedding/thinning of urothelium; asterisk (*): Edema; plus (+): Neutrophil infiltration. H-Estain, bars 20 and 50 µm.

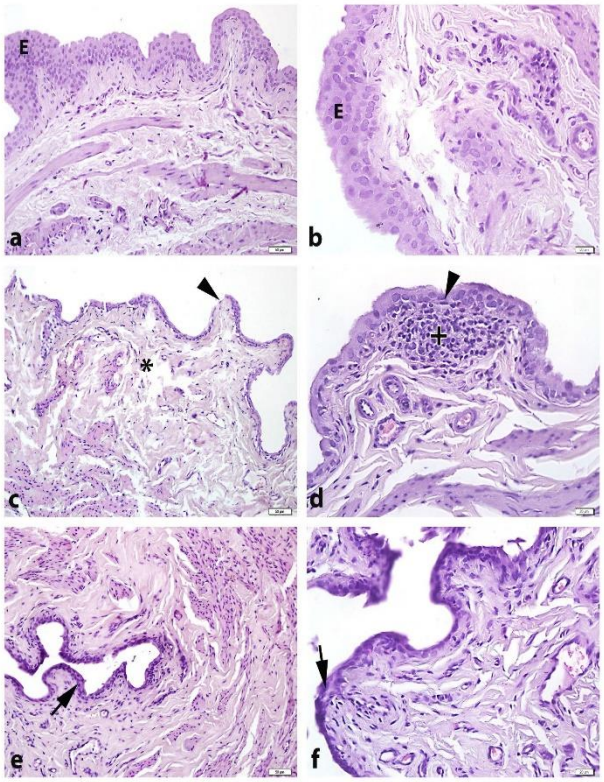

Figure 1

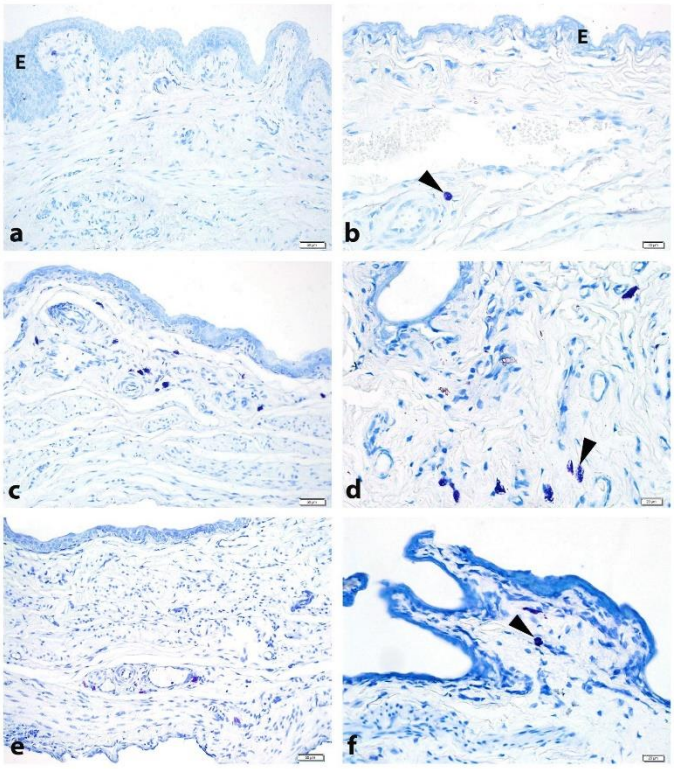

Figure 2

Figure 2. Representative micrographs showing mast cell distribution. a and b: Control group; c and d: Experimental group; e and f: Treatment group. E: Urothelial layer; arrowhead: Mast cell. TM stain, bars 20 and 50 µm.

Figure 3. Representative micrographs from spinal cord sections immunolabeled with TNF-α and IBA-1. Chromogen DAB (brown), bars 20 and 50 µm.

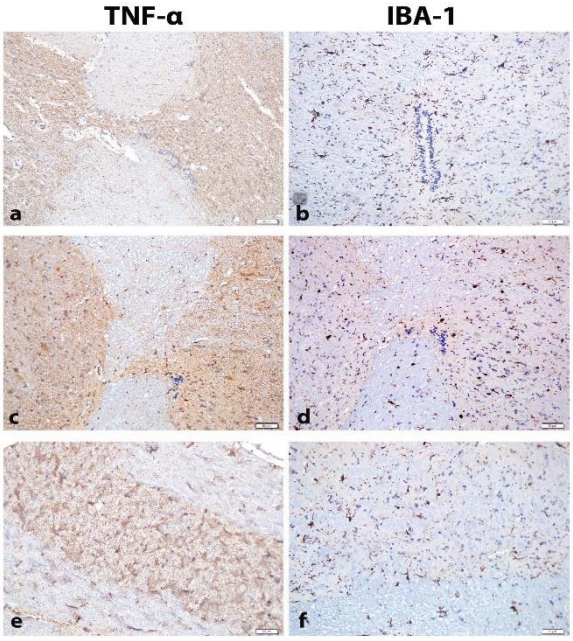

Table 1: Bladder inflammation scores, Mast cell counts, TNF alfa levels and IBA-1 levels of the groups.

	Control group	IC group	MSC group	p_{all}	$p_{c\text{-}ic}$	$p_{c\text{-}msc}$	$p_{ic\text{-}msc}$
Inflamation score							
Mean ± SD	0.583 ± 0.491	5.625 ± 0.443	3.688 ± 0.593	<0.001*	<0.001*	0.132	0.039*
Median (min-max)	0.750 (0-1)	5.75 (5-6)	4 (3.0-4.5)				
Mast Cell							
Mean ± SD	5.133 ± 1.163	12.786 ± 1.562	7.029 ± 0.738	<0.001*	<0.001*	0.314	0.025*
Median (min-max)	5 (3.9 – 7.2)	12.5 (10.9 – 15.4)	7.2 (5.8 – 8.1)				
TNF alpha							
Mean ± SD	1.5 ± 0.547	2.571± 0.534	1.571 ± 0.534	0.005*	0.012*	1.000	0.018*
Median (min-max)	1.5 (1-2)	3 (2-3)	2 (1-2)				
IBA-1							
Mean ± SD	1.167 ± 0.408	2.571 ± 0.534	1.429 ± 0.534	0.003*	0.004*	1.000	0.026*
Median (min-max)	1 (1-2)	3 (2-3)	1 (1-2)				

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6 - MIDTERM COMPLICATIONS AFTER PRIMARY OBSTETRICAL ANAL SPHINCTER INJURY REPAIR IN FRANCE

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INTRODUCTION AND AIM OF THE STUDY

The incidence of complications following obstetrical anal sphincter injury (OASI) during vaginal delivery remains inadequately characterized. Wound complications include infection, breakdown, incontinence and rectovaginal fistula[1]. They can affect women's quality of life and prolonged postpartum recovery. Effective identification of women at risk of OASIS complications could greatly improve patient care by providing better information and personalized follow-up strategies. This requires comprehensive data collection and analysis to better understand the predictors of adverse outcomes and improve clinical practice. Existing studies typically focus on high-resource maternity centers, small patient cohorts, all degrees of perineal tears, or are conducted in low-income countries. Our study aimed to comprehensively describe the complications arising after primary OASI repair following vaginal delivery across all French maternity wards, examining both short- and mid-term outcomes, and to identify factors associated with the occurrence of these complications.

MATERIALS AND METHODS

We conducted a historical cohort study utilizing data from the French nationwide claim database (PMSI "Programme de Médicalisation des Systèmes d'Information", which means Information Systems Medicalization Program) covering the period from January 2013 to December 2021. The study included all women who underwent OASI repair following a vaginal delivery, with a virtual follow-up extending for two years. We then identified complications related to OASI and analyzed the factors associated with these complications, whether they were subsequently repaired or not, as well as the factors linked specifically to OASI complication repairs. Qualitative, binary, or discrete variables with very few modalities are expressed in numbers and percentages. Quantitative variables are expressed as mean and standard deviation (SD). The relationships between the candidate covariates and a binary outcome are modelled and tested using a logistic regression. The results are expressed in terms of odds ratios (OR) with 95% confidence intervals (CI95%). The available covariates are all included in the analysis and are selected automatically using a bidirectional stepwise procedure. Statistics were computed using R statistical software version 4.0.2, and RStudio. Statistical tests are two-sided. The p values are considered significant at the 5% threshold. P values lower than 10−10 are reported as "p=0". Confidence intervals are computed at 95%.

RESULTS

Among the 61,833 included women, 2015 (2.8%) had an OASI complication and 842 (1.16%) underwent an OASI complication repair. Median age of the study population was 29.3±5.0. Women were mainly primiparous (71.6%) and 44.3% underwent an instrumental delivery. During a follow-up of 2 years, 0.6% (n=463), 0.3% (n=240), 0.2% (n=176), 0.1% (n=84), 0.06% (n=43) and 0.01% (n=5) of patients underwent second surgery for a perineal repair, a fistula repair, a sphincteroplasty, a perineal infection, a colostomy and a sacral nervous anal stimulation, respectively. Only one case of artificial anal sphincter was noticed. Instrumental deliveries (OR=1.53 CI95%[1.3;1.79]), obesity (OR=1.35 [1.5;1.72]), stage IV OASIS (OR=2.43 [2.01;2.94], refence group "overall stage III OASIS"), obstetrical hematoma (OR=1.81 [1.22;2.67]), ages between 25 and 29 years old (OR=1.27 [1;1.61], refence group "age between 13 and 24 years old") were statistically independently associated with OASIS complication repaired or not. Instrumental deliveries (OR=1.56 CI95%[1.29;1.9]), private for-profit hospitals (OR=1.42 [1.11;1.82], reference group "public hospital"), obesity (OR=1.36 [1;1.84]), stage IV OASIS (OR=2.98 [2.4;3.72]), perineal wound breakdown (OR=2.8 [1.4;5.48]), ages between 25 and 29 years old (OR=1.59 [1.17;2.18], refence group "age between 13 and 24 years old") and 30 and 34 years old (OR=1.57 [1.14; 2.16], refence group "age between 13 and 24 years old") were factors associated with OASIS complication repairs.

Low and mid-cavity instrumental deliveries were independently factors associated with OASIS complication repair (OR=1.6 [1.2;2.13] and OR=1.4 [1.14;1.72], respectively).

INTERPRETATION OF RESULTS

In this large French historical cohort study, global OASIS complications and OASIS complication repairs rates at midterm were low (2.8% and 1.6%). These rates are lower than those from the literature[1]. Stage IV OASIS was associated with a twofold risk of OASIS complications repaired or not and a nearly threefold risk of OASIS complication repairs. Instrumental delivery was a significative factor associated with of OASIS complications repaired or not and of OASIS complication repairs. This is in accordance with the literature[1]. In our study, 19.4%, 14.8% and 2.5% of women had a forceps delivery, a vacuum delivery and combined forceps and vacuum delivery, respectively. No instrument was found to be statistically more at risk of an OASIS complication than another. Perineal wound breakdown was associated with a nearly threefold risk of OASIS complication repair. Obstetrical hematoma (pelvic hematoma of obstetric origin and obstetric wound hematoma) was associated with a nearly twofold risk of OASIS complication repaired or not. These two factors associated with could be explained by the presence of necrotic tissue, poor perineal hygiene and the formation of a perineal hematoma. Intrapartum antibiotics was described in the literature to be a protective factor[1]. We could not study this factor because common drugs are not traced in the PMSI database. Ages between 25 and 29 years old were statistically significative factors associated with OASIS complications repaired or not. Plus, ages between 25 and 29 years old and 30 and 34 years old were statistically associated with OASIS complication repair. The hypothesis explaining these results is that younger women will seek for help more easily and more often for perineal complications than older women. Similarly, women from private for-profit hospitals who are probably better off financially, are more likely to consult a doctor for an OASIS complication. Complications may be under-reported and under-treated in older women, and non-profit hospitals. Obesity was a predictor for OASIS complications in this study. This is in accordance with the literature[2]. The major limitation of this study is that it relies on real-world data. Those data were not collected for the present research, but for billing purposes. The data suffer from under-coding bias. For instance, data such as tobacco use, pain or postnatal depression do not have any impact on hospital funding, and it is poorly coded. This is the reason why we could not study these potential factors associated with OASIS complications. However, it can be expected that the under-coding bias is non-differential, and risk factors that can be discovered are actual risk factors. But it is the largest real-life retrospective study about OASIS complications. Second, women are not only included from specialized perineal clinics or high-level maternities. They come from all French public and private hospitals, which ensures that they are highly representative of the real population. The methodology induces some limits. The database only includes diagnoses or procedures associated with hospitalization. So, complications treated on an outpatient basis were therefore not included. Moreover, during the 2-year follow-up, the patient could subsequently deliver again. The OASI complication could not be attributed to the first or second delivery. But this rate is very low. A positive message can be given to women who delivered with an OASI. Women with an OASI can be reassured about the overall complication rate, which is relatively low. This study provides valuable insights into the factors associated with OASIS complications, enabling healthcare professionals to better identify women at risk of complications and to improve outcomes for women with OASIS and minimize the risk of mid-term complications. By focusing on these factors, healthcare professionals can empower these women to actively participate in their care and ensure the best possible outcomes after OASIS repair.

CONCLUSIONS

Maternal age, stage IV OASIS, obesity, instrumental deliveries and private for-profit hospitals seemed to predict OASIS complications. Understanding factors associated with OASIS complications could be beneficial for the patient to inform them and to influence the patient's follow-up in order to prevent complications, repairs and maternal distress.

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7 - POTENTIALLY PATHOGENIC VARIANTS IN CHANNELOPATHY-ASSOCIATED GENES IN YOUNG FEMALES WITH PELVIC ORGAN PROLAPSE AND FAMILY HISTORY OF PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic floor dysfunction (PFD) can be caused by several factors including pregnancy and vaginal delivery, obesity, chronic increased intraabdominal pressure, age, and genetic polymorphisms. PFD usually results in pelvic organ prolapse (POP) and/or urinary incontinence. The incidence of POP increases significantly with age, but it also affects young women. It seems that genetic factors may play an important role, especially in young women with family history. The aim of this study was the identification of variants, potentially pathogenic, associated with increased risk of POP.

MATERIALS AND METHODS

We tested 10 young females with POP and a family history of PFD. Whole-exome sequencing (WES) was used to identify genetic variants potentially involved in the development of POP in patients and their parents. *In silico* tools were used to predict pathogenicity and the impact of genetic variants on protein structure and function.

RESULTS

The mean age of ten probands was 33.57 ± 5.06 years old, the average BMI was 22.67 ± 2.86 and the child's birth weight was 3701.67 ± 304.36. Clinical features and other characteristics are presented in Table 1.

Table 1 Demographic and clinical data of patients.

Characteristics	Value
Age (years)	33.57 ±5.06
BMI (kg/m^2)	22.67 ±2.86
Number of parity	1.50±0.53
Birth weight of child (g)	3701.67 ±304.36
POP stage II or higher	10 (100%)
UI[1]	2 (20%)
Hernia	1 (10%)
Hemaemorroids	2 (20%)
Former smokers[2]	2 (20%)
Number of patients underwent POP surgery	7 (70%)

[1] urinary incontinence; [2] smoking cessation at ages 22 and 27

WES analysis revealed six potentially pathogenic variants in genes encoding ion channels in five females. Four were nonsense variants (stop-gained or frameshift generating a new stop codon) and two were missense variants. Detailed variant descriptions are presented in Table 2.

Table 2 Variants in ion channel genes.

Gene	Gene name	dbSNP	Amino acid change	Variant type	Case ID/ Origin
CLCN1	Chloride voltage-gated channel 1	rs55960271	p.Arg894*	stop_gained	1/PAT 7/MAT
RYR1	Ryanodine receptor 1	rs957392274	p.Arg1618His	missense	7/MAT
GRIN2C	Glutamate ionotropic receptor NMDA type subunit 2C		p.Gln151*	stop_gained	4/MAT
ORAI1	ORAI calcium release-activated calcium modulator 1		p.Pro43Thrfs*22	frameshift with a new stop codon	4/MAT
PIEZO1	Piezo type mechanosensitive ion channel component 1	rs368497431	p.Glu2469Lys	missense	3/PAT
ATP1A4	ATPase Na+/K+ transporting subunit alpha 4	rs779877987	p.Asp939Ilefs*17	frameshift with a new stop codon	11/MAT

MAT – maternally inherited; PAT – paternally inherited

INTERPRETATION OF RESULTS

In patients No. 1 and 7 we identified the same stop-gained variant (p.Arg894*) in the *CLCN1* gene encoding voltage-gated chloride (CIC-1) channel. This variant shortens the protein by 94 amino acids, and *in vitro* study showed that this variant can produce functional channel but strongly reduces current amplitudes. The CIC-1 channel is responsible for ~80% of the resting membrane conductance in normal skeletal muscle [1]. Therefore, the truncated protein could disturb the electric excitability of the skeletal muscle membrane. The same variant was identified in Latvian, German, and Finnish populations in patients with myotonia congenita or myotonic dystrophy type 2 in both homozygous and heterozygous conditions. In patient No. 7, a missense variant was also detected in the *RYR1* gene that encodes a ryanodine receptor which acts as a calcium release channel required for skeletal muscle contraction. In patient No. 4, the stop-gain variants in the *GRIN2C* and ORAI1 genes, which produced truncated proteins, were identified. Truncated proteins cannot integrate into the membrane and respond to activating signals. In patient No.3, a missense variant was identified in the *PIEZO1* gene which is a mechanically activated ion channel involved in skeletal muscle remodelling, repair, and perhaps in muscle vascularization [2]. In patient no. 11, an interesting variant was identified that led to the formation of a truncated ATP1A4 protein, which maintains an electrochemical gradient within cells through the active transport of sodium (Na+) and potassium (K+) ions. ATP1A4 has been detected in skeletal muscle and likely plays a role in calcium homeostasis and maintaining membrane potentials, thereby influencing muscle contraction [3].

CONCLUSIONS

Trio-based WES analysis was performed in 10 patients with a family history of PFD. Six potentially pathogenic variants in genes encoding ion channels important for muscle excitability and constriction were identified. Four variants resulted in truncated proteins, which cannot function properly, thereby disturbing muscle function, and ultimately resulting in muscle weakness. We did not determine common variant/variants in young women with POP, instead, the patient`s specific variants should be considered. We hypothesize that the heterozygous genotypes seem to protect from severe disorders such as symptomatic myopathy or myotonia, however due to weakness of the pelvic floor muscles they can lead to POP in women after vaginal delivery of a appropriate weighted newborns. It seems that women with a familiar predisposition could benefit from high-resolution MRI and electromyography test to assess muscle condition before pregnancy and delivery. Additionally urogynaecological physiotherapy should be considered to improve the condition of pelvic floor muscle.

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8 - BIOMECHANICAL MODEL OF THE LEVATOR ANI MUSCLE: IDENTIFYING THE AREAS OF GREATEST STRAIN IN ITS SUBDIVISIONS

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence and pelvic organ prolapse (POP) are conditions that affect up to 70% of women over the age of 50. One of the most significant risk factors for the development of these conditions is injury to the levator ani muscle (LAM) and its subdivisions that provide vaginal support at level III, which include the puborectal muscle (PRM) and pubovisceral muscle (PVM). Pelvic floor injuries can be classified as “Type I” injuries, where some of the muscle mass is lost due to muscle atrophy, and “Type II” injuries, which involve muscle detachment from the pubic bone due to excessive tension during the second stage of labor (1) .
Recent study report a higher frequency of Type I defect in the PRM but also in the PVM (2).
The aim of this study is to investigate a potential defect in individual parts of the levator ani muscle (LAM) using a computational biomedical model of the pelvic floor, highlighting the fibre strain in each structure during the passage of a sphere through the pelvis.

MATERIALS AND METHODS

The computational biomechanical model of the pelvic floor was developed based on a 3T MRI scan of a nulliparous woman. The individual structures of the pelvic floor were then delineated in the model to allow for selective separation into anatomically significant components. A sphere with a diameter of 9.6 cm simulating a fetal head passing through the pelvic floor was then placed into the model. The sphere moves along the Carus curve. The finite element (FE) model includes skeletal muscle model allowing to reflect the muscle microstructure at any point of the material, considering active and passive fibres embedded in a hyperelastic matrix (3). Muscle fibres were defined using several manually supplied directions and then interpolated throughout the muscle volume so that fibre directions were defined in each integration point of the FE mesh. Subsequently, the model of the pelvic floor displayed the level of fiber strain in different parts of the LAM during the sphere delivery.

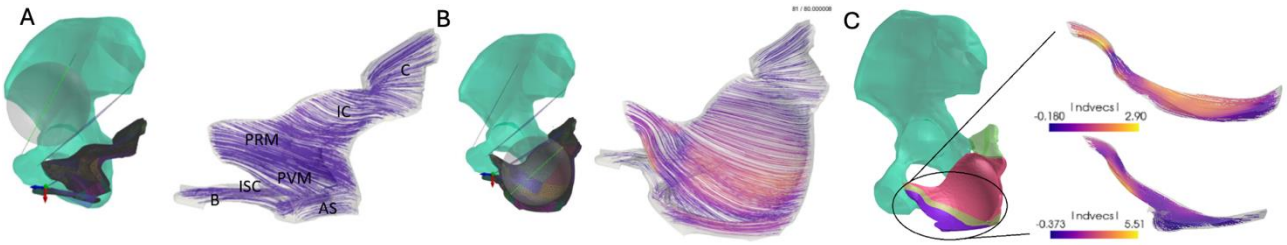

Fig. 1: Pelvic floor model with the muscles of the pelvic cavity (coccygeus (C), iliococcygeus (IC), puborectal muscle (PRM), pubovisceral muscle (PVM), anal sphincter (AS)) and perineum (ischiocavernosus (ISC), bulbospogiosus (B), transversus superficialis (not visible)). The individual lines in the middle represent the orientation of muscle fibers. The colloration represents strain of fibers when sphere descents through pelvis. On the right side of the image, the PRM is shown with maximum strain at its attachment to the symphysis and in the lateral portion of the muscle. The maximum strain in the PVM is primarily at its attachment to the symphysis. The values in the individual images indicate that the PVM is more heavily loaded than the PRM in the lateral portion of the muscle.

RESULTS

The biomechanical model simulated the strain levels of individual pelvic floor structures during delivery. Pelvic muscle directions are displayed in [Fig. 1]. We selectively chose the PRM and PVM for a subsequent evaluation of the load on each structure [Fig. 1]. In the displayed image, we can observe the degree of muscle loading as the sphere descends through the pelvis. The absolute value indicates the level of stretching (PRM - and The coloration subsequently highlights the most heavily loaded areas of the depicted structures. The greater loading of the muscle is reflected in absolute values, being higher for the PVM (5.51) than the PRM (2.90), as seen in the image [Fig. 2]. Regarding the degree of loading, significant muscle tension is observed at the muscle attachment site and then in the dorsolateral part of the PRM, while in the PVM, the load is predominantly only at the muscle attachment site [Fig. 2].

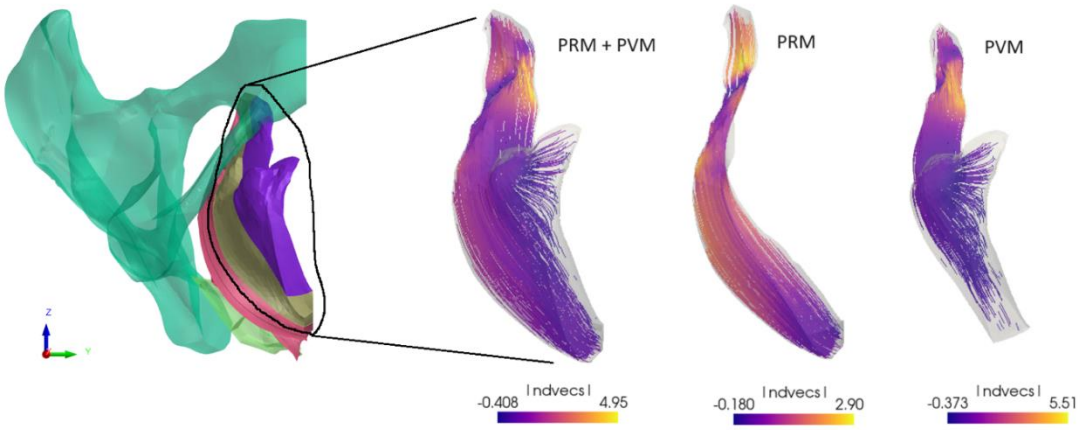

Fig. 2: The pelvic floor model illustrates the loading of the pelvic muscles on the right side as a sphere passes through the obstetrical outlet, viewed from a caudal to cranial perspective. The highlighted structures represent the different parts of the levator ani muscle. The color gradient indicates areas of maximum load, while the values shown at the bottom of the image demonstrate the degree of loading on each part (PRM - puborectalis muscle, PVM - pubovisceral muscle).

INTERPRETATION OF RESULTS

The simulation supports the theory that the orientation of muscle fibers significantly influences the risk of muscle damage. This may be attributed to the sharper angle formed by the puborectalis muscle (PRM) at its attachment site, compared to the pubovisceral muscle (PVM), where the angle appears to be more open. The lateral loading could explain the occurrence of Type I injury. Type I injury is reported to be more frequent in women with pelvic organ prolapse (POP) than Type II injury, as described in a published MRI study(2) . However, the model suggests increased lateral loading primarily in the PRM. Contrary to the model's prediction, Type I injury has been observed with comparable frequency in both the PRM and PVM (2).

CONCLUSIONS

The use of this model confirms the theory that the orientation of pelvic floor muscle fibers plays a critical role in determining the loading patterns of pelvic floor muscles. The distribution of loading in these regions may provide an explanation for the occurrence of both Type I and Type II injuries to the levator ani muscle (LAM). Lateral defects, however, are not frequently examined or documented, thus, further clinical examination and observation are required to substantiate the theoretical basis for these injuries.

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9 - EVALUATING THE SAFETY AND FEASIBILITY OF SAME-DAY DISCHARGE AFTER PELVIC FLOOR RECONSTRUCTION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

Same-day discharge has been increasingly implemented following minimally invasive gynaecological procedures such as hysterectomy, myomectomy, and urogynaecological interventions. However, the outcomes associated with same-day discharge for women undergoing vaginal reconstructive surgery for pelvic organ prolapse remain variable. This systematic review aims to evaluate the safety and feasibility of same-day discharge in this surgical context.

MATERIALS AND METHODS

A systematic review and meta-analysis were conducted following PRISMA guidelines. We searched PubMed, Embase, Cochrane Library, and Scopus for studies evaluating same-day discharge after pelvic floor reconstruction surgery. Eligible studies included randomized controlled trials, cohort studies, and observational studies reporting on safety, feasibility, postoperative outcomes, and complications.

RESULTS

Nine cohort studies were included with 107,232 patients and were analyzed to compare outcomes between same-day discharge (SDD) and next-day discharge (NDD) groups. A higher rate of reoperation in the NDD group compared to the SDD group, with a pooled relative risk (RR) of 0.84 (95% CI [0.71, 0.99], p = 0.03) as shown in **Figure 1**. Conversely, the rate of 30-day readmission was significantly higher in the SDD group than in the NDD group, with a pooled RR of 0.73 (95% CI [0.63, 0.84], p = 0.0001) as shown in **Figure 2**. The studies included in the analysis demonstrated homogeneity for both outcomes.

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Study or Subgroup	SDD Events	SDD Total	NDD Events	NDD Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Bretschneider 2022	62	6852	282	26762	36.8%	0.86 [0.65, 1.13]
Burger 2024	37	4073	186	20204	20.0%	0.99 [0.69, 1.40]
Halder 2024	40	8094	131	22242	22.4%	0.84 [0.59, 1.19]
Kim, 2022	12	1670	21	1670	6.7%	0.57 [0.28, 1.16]
liu, 2020	0	23	2	32	0.7%	0.28 [0.01, 5.47]
Puig,2024	1	76	0	23	0.2%	0.94 [0.04, 22.21]
Raju,2022	4	362	22	2566	1.7%	1.29 [0.45, 3.72]
Robison, 2022	13	2100	107	10483	11.4%	0.61 [0.34, 1.08]
Total (95% CI)		**23250**		**83982**	**100.0%**	**0.84 [0.71, 0.99]**
Total events	169		751			

Heterogeneity: Chi² = 4.39, df = 7 (P = 0.73); I² = 0%
Test for overall effect: Z = 2.11 (P = 0.03)

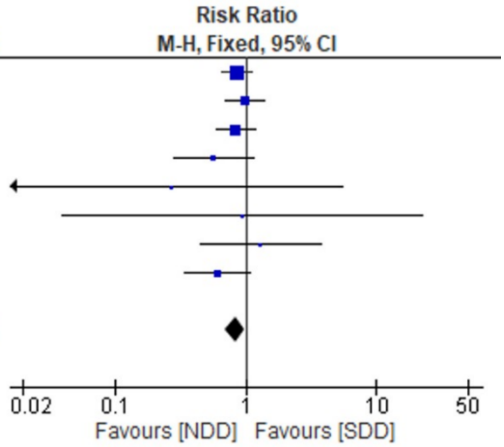

Figure 1

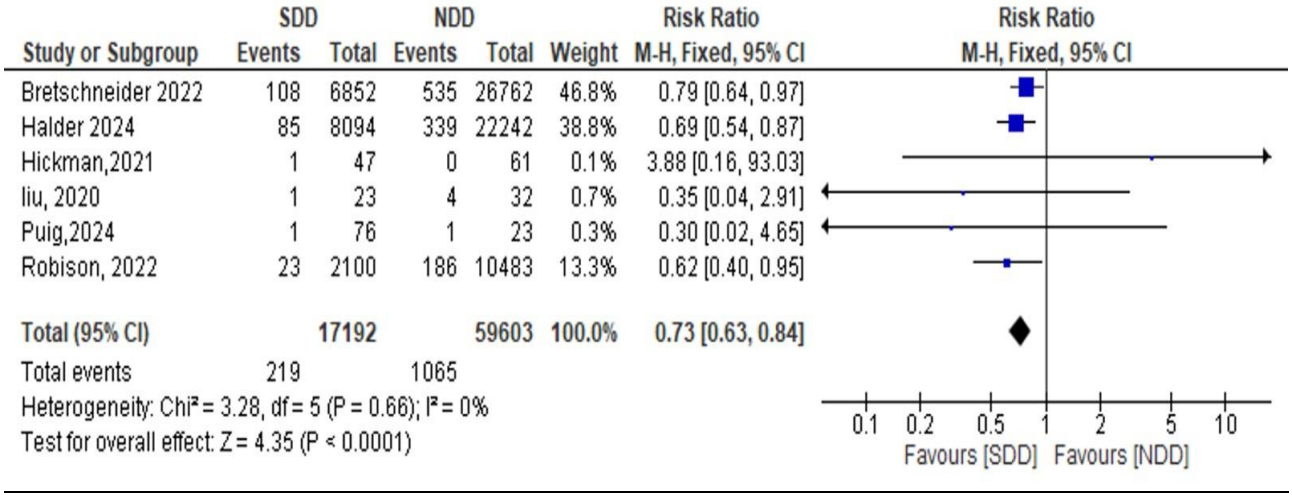

Figure 2

CONCLUSIONS

Same-day discharge is associated with a lower risk of reoperation and 30-day readmission compared to next-day discharge, supporting the safety and feasibility of early discharge in pelvic floor reconstruction surgery.

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10 - TIMING EVALUATION OF CATHETER REMOVAL AFTER ANTERIOR REPAIR: A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Genital prolapse represents the herniation of the pelvic organs through the urogenital hiatus. When the anterior vaginal wall is involved, the descent concerns the lower urinary tract (bladder and urethra). Consequently, the prolapse of this compartment is often diagnosed in association with urinary symptoms such as urinary incontinence, urinary disorders, frequency or urgency, urinary retention or obstruction, renal function disorders. If anterior vaginal wall prolapse is surgically repaired after some time since its appearance, symptoms such as voiding difficulty may persist even after surgery when the mechanical prolapse obstruction is removed. This may occur immediately after surgery or in up to 51% on a long-term basis. In order to promote a bladder recovery, it is common practice to place intraoperatively a Foley trans-urethral catheter that is then removed after few days. No standard protocol exists in literature about the right time of catheter removal. The aim of this study is to evaluate the difference between catheter removal in day 1 or 2 post-op in terms of return to normal void, re-catheterization rates, incidence of urinary tract infection, days of hospitalization in women submitted to anterior repair.

MATERIALS AND METHODS

This is a single center randomized controlled trial carried out in an academic tertiary referral urogynecological unit. We included women affected by symptomatic pelvic organ prolapse and candidates for anterior repair with or without vaginal hysterectomy. Pelvic prolapse was scored accordingly to the ICS POP-Q classification. Patients were randomized into two study groups, the first in which the bladder catheter was removed on the first post-operative day, and the second on the second post-operative day. For each single patient, who met the inclusion criteria, the following data were collected: age, menopausal status, previous abdominopelvic surgery, smoking habits, BMI, sexual activity, days of hospitalization, urination recovery. Each single woman had an urinalysis on hospital admission and at catheter removal. An Ultrasound measurement of post-void (after he 1st micturition) residual was always performed in each woman after catheter removal. Residual bladder volume was considered significant when ≥ 200 ml after spontaneous void of at least 150-200 ml (therefore corresponding at half functional bladder capacity) at least twice in a row. When the residual was significant and indwelling trans-urethral catheter was placed and removed within 7 days. Continuous variables were analyzed using the t-test Student and categorical variables using the test Chi-square or Fisher's test, as appropriate, with a non-inferiority margin of 15 percentage points.

RESULTS

In this study we recruited 123 women, 60 in Group 1 (catheter removal in day 1), 63 in group 2 (catheter removal in day 2), Table 1 shows the baseline characteristics of our population. The rate of postoperative urinary retention requiring re-catheterization was 6/60 in Group I compared to 2/63 in group 2 (p=0.125). UTI rates were 1/60 in Group I and 2/63 in Group II (p=0.588). The median length of hospital stay was 3.00 [1-2] days for Group I and 4.00 [5-6] days for Group II (p=0.025).

Table 1: baseline characteristics

	gruppo	età	anni MP	BMI	G	PE	PO
N	2	63	63	63	63	63	63
	1	60	60	60	60	60	60
Missing	2	0	0	0	0	0	0
	1	0	0	0	0	0	0
Mean	2	65.7	46.0	24.9	2.52	2.03	0.0635
	1	65.5	48.4	24.9	2.22	1.87	0.100
Median	2	68	50	24.5	2	2	0
	1	67.0	50.0	25.1	2.00	2.00	0.00
Standard deviation	2	11.0	14.2	3.25	1.15	0.803	0.246
	1	7.93	9.93	3.52	1.08	1.13	0.303
Minimum	2	29	0	19.0	1	0	0
	1	46	0	18.9	0	0	0
Maximum	2	84	57	32.5	8	4	1
	1	85	58	33.0	7	7	1

INTERPRETATION OF RESULTS

Our study found no significant difference in the rates of urinary retention or UTIs between early (day one) and delayed (day two) catheter removal after urogynecological surgery. However, earlier catheter removal was associated with a significantly shorter hospital stay. These findings suggest that removing the urinary catheter on postoperative day one may be safe and could potentially reduce healthcare costs without increasing complications.

CONCLUSIONS

Our study shows that while there were no significant differences in urinary retention or UTIs, there was a significant difference in the length of hospital stay.

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11 - THE EFFECT OF PREOPERATIVE BUPIVACAINE INFILTRATION ON POSTOPERATIVE PAIN AFTER VAGINAL SURGERIES: A SYSTEMATIC REVIEW AND META-ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

Effective postoperative pain management is a crucial component of recovery following surgery, as inadequate pain control can lead to complications and prolonged recovery times. Gynecological surgeries, in particular, have been associated with a heightened risk of opioid misuse due to the need for effective pain relief. To address this, there is growing interest in alternative pain management strategies, such as the use of local anesthetics. This systematic review aims to evaluate the effect of bupivacaine injection on postoperative pain management in women undergoing pelvic organ prolapse surgery.

MATERIALS AND METHODS

A systematic review and meta-analysis were conducted following PRISMA guidelines. We searched PubMed, Embase, Cochrane Library, and Scopus for randomized controlled trials (RCTs) evaluating same-day discharge after pelvic floor reconstruction surgery. The main outcome was pain scores, as measured by the Visual Analog Scale (VAS) postoperatively.

RESULTS

The meta-analysis included data from eight studies, comprising a total of 629 participants. There were no significant differences in postoperative pain between the Bupivacaine and Placebo groups (MD -0.17, 95% CI [-0.63, 0.29], p = 0.47) **Figure 1**. The studies were homogeneous, indicating consistent findings across all trials analyzed.

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Study or Subgroup	Bupivacaine Mean	Bupivacaine SD	Bupivacaine Total	Placebo Mean	Placebo SD	Placebo Total	Weight	Mean Difference IV, Fixed, 95% CI
Abramov2005	4.67	7.63	51	3.67	6.1	51	2.9%	1.00 [-1.68, 3.68]
Dunivan2011	2	2.4	21	2.3	2.2	21	10.8%	-0.30 [-1.69, 1.09]
Evans2021	2.9	3.63	37	2.5	2.59	35	10.0%	0.40 [-1.05, 1.85]
Ezzedine2024	4	3.7	19	7	0.37	17	0.0%	-3.00 [-4.67, -1.33]
Ferrando2018	3.4	2.7	24	3.7	2.9	24	8.3%	-0.30 [-1.89, 1.29]
Gluck2023	4	3.3	60	4.9	2.3	60	20.2%	-0.90 [-1.92, 0.12]
Jone2018	1.33	2.29	49	1.33	2.29	51	26.0%	0.00 [-0.90, 0.90]
Mazloomdoost2017	3	2.96	54	3	2.22	55	21.7%	0.00 [-0.98, 0.98]
Total (95% CI)			**296**			**297**	**100.0%**	**-0.17 [-0.63, 0.29]**

Heterogeneity: Chi² = 3.61, df = 6 (P = 0.73); I² = 0%
Test for overall effect: Z = 0.73 (P = 0.47)

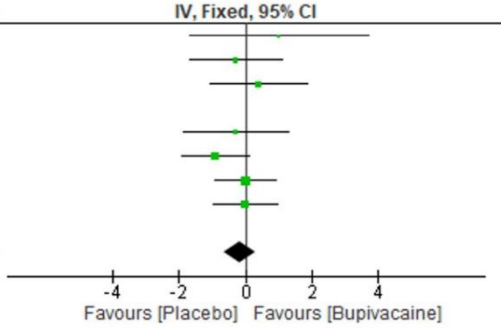

Figure 1

CONCLUSIONS

Preoperative pelvic floor muscle injections and pudendal nerve blocks with bupivacaine does not improve postoperative pain after vaginal repair procedures.

12 - LONG TERM OUTCOMES OF PERMANENT VERSUS ABSORBABLE SUTURE MATERIAL FOR VAGINAL SACROSPINOUS LIGAMENT FIXATION (SSLF)

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INTRODUCTION AND AIM OF THE STUDY:

Sacrospinous ligament fixation (SSLF) is a widespread apical suspension procedure for vaginal pelvic organ prolapse (POP) surgery, due to its short operative time, quick recovery, and low complication rates. Several SSLF variations exist, including different ligament access points, suture placements, and suture materials, such as absorbable or permanent sutures. The choice of suture material often relies on surgeon preference, as there are no definitive evidence-based guidelines[1]. Limited research exists on SSLF outcomes based on suture type, with some evidence suggesting that permanent sutures may increase immediate postoperative pain[2]. A recent study indicated that the type of suture material (absorbable vs. permanent) does not significantly affect the outcome of SSLF after one year[3]. There are currently no known studies comparing long-term outcomes of SSLF using different suture materials.

The aim of this study is to evaluate the long-term outcomes of SSLF using permanent versus absorbable suture materials, specifically focusing on anatomical success, postoperative complications, and pain.

MATERIALS AND METHODS:

Following IRB approval, the electronic medical records of women who underwent SSLF in the gynecology department of a university-affiliated medical center from March 2013 to July 2021 were retrospectively reviewed. SSLF was carried out using Capio® and DigitexTM, with either absorbable (polyglactin- 910 or polydioxanone) sutures, or permanent (polypropylene) sutures, Pre-operative and post-operative assessment included prolapse staging using the pelvic organ prolapse quantification system and validated quality of life questionnaires (Pelvic Floor Distress Inventory and Pelvic Organ Prolapse/Urinary In- continence Sexual Questionnaire-12. Patients with postoperative information on objective and subjective outcome at 12 months were included in final analysis. Anatomical success was defined as POP stage < 2 at 12- months following surgery. Compartment-specific success was defined as points Ba, Bp or C above -1. For statistical analysis, the Mann-Whitney test was used for continuous variables, Fisher's exact test for dichotomous variables, and Chi-squared test of independence for variables with>2 categories.

RESULTS:

During the study period, 207 women underwent SSLF. One-hundred and seven patients (51.7%) completed at least a 36-month follow-up and were included in final analysis.
Fifty-seven (53.3%) patients had absorbable suture (group 1), and 50 (46.7%) patients had permanent suture (group 2). The mean length of follow-up for the cohort was 54.54 (13.77) months and it was significantly higher in group 1 that in group 2 [59.11 (13.8) vs 49.33 (11.86) respectively, p <0.0001]. Moderate to severe pain on POD-1 was significantly higher in group 2 [VAS: 2.00 (0.00–4.00) vs 4.00 (4.00–6.00) respectively, p <0.0001]. The risk for posterior compartment failure was higher, but not significant in group 1 than in group 2 [15 (26.3%) vs 6 (12%) respectively, p =0.063]. There was a similar rate of posterior colporrhaphies in both groups [15 (26.3%) vs 16 (32%) respectively, p= 0.518]. Overall anatomical failure, defined as POP > stage 2 at a follow-up of ≥ 36 months was similar between groups: 42.1% in group 1 vs 42% in group 2 (p =0.991). Prolapse symptoms at latest follow-up were similar between groups: 0% in group 1 vs 4 % in group 2 (p =0.127). At the last follow-up, none of the patients had gluteal pain and none had been reoperated for prolapse.

INTERPRETATION OF RESULTS

Our findings suggest that the type of suture material, whether absorbable or permanent, does not significantly impact the long-term outcomes of SSLF beyond 36 months. We observed a borderline, non-significant correlation between utilization of absorbable sutures and an increased risk of posterior compartment failure, which might reflect a degree of apical failure, and warrants further investigation. However, permanent sutures are associated with significantly higher immediate postoperative pain. These results highlight that both suture types are viable options for SSLF, though the choice may be influenced by considerations such as immediate postoperative discomfort.

CONCLUSION

The type of suture material, absorbable or permanent, does not significantly affect long-term outcomes of SSLF beyond 36 months. While permanent sutures are linked to higher immediate postoperative pain, both suture types remain viable options, with the choice influenced by considerations of postoperative discomfort and individual patient needs.

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Table 1: **Surgery outcome and complications beyond 36 months**

characteristic	overall n=107	absorbable n=57	permanent n=50	P-value (2-sided)[1]
Anatomical failure, n (%)	45 (42.1%)	24 (42.1%)	21 (42%)	0.991
subjective failure, n (%)	2 (1.9%)	0 (0%)	2 (4%)	0.127
Reoperation rate, n (%)	0 (0%)	0 (0%)	0 (0%)	
Buttock/hip pain, n (%)	0 (0%)	0 (0%)	0 (0%)	
Constipation, n (%)	20 (18.7%)	14 (24.6%)	6 (12%)	0.096
sexually active, n (%)	32 (29.9%)	17 (29.8%)	15 (30%)	0.984
VAS on POD-1, mean (IQR)	3.42 (0.00-5.00)	2.02 (0.00-4.00)	4.34 (4.00-6.00)	<0.0001
anterior failure, n (%)	27 (25.2%)	12 (21.1%)	15 (30%)	0.288
posterior failure, n (%)	21(19.6%)	15 (26.3%)	6 (12%)	0.063
apical failure, n (%)	3 (2.8%)	1 (1.8%)	2 (4%)	0.483

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[1]Wilcoxon rank sum test; Fisher's exact test; Pearson's Chi-squared test

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13 - DOES CONCOMITANT TRANSOBTURATORY LATERAL SUSPENSION IN TIME OF ANTERIOR VAGINAL WALL REPAIR REDUCE THE OBJECTIVE RECURRENCE RATE OF ANTERIOR COLPORRHAPHY?

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INTRODUCTION AND AIM OF THE STUDY

Native tissue anterior wall repair is still one of the most performed surgical procedures for pelvic organ prolapse (POP). However, the recurrence rate is relatively high, especially in cases of lateral cystoceles, in which traditional anterior colporrhaphy (AC) might not properly address the underlying anatomical defect.
In order to decrease the recurrence rate of native tissue anterior wall repair, we investigated a new technique in which concomitant transobturatory lateral suspension (TOLS) of anterior wall using nonabsorbable suture is performed together with AC. The technique was first described by Laufer et al. in 2020 (1). The aim of our study was to compare the short-term objective recurrence, subjective recurrence and satisfaction rate after AC vs. native tissue anterior vaginal wall repair with concomitant TOLS.

MATERIALS AND METHODS

We performed prospective randomised controlled trial in which we compared two surgical methods in patients with anterior vaginal wall prolapse. IRB approval was obtained for the study.
Patients with anterior wall prolapse, who agreed to participate in our study, were randomly assigned in one of two groups: one group underwent AC and the second group underwent AC + TOLS. In TOLS group, additional non-resorbable sutures were placed on the lateral edge of the pubocervical fascia and derived through obturator foramen, which provided additional support of the anterior vaginal wall. All procedures were performed under local anaesthesia and by one experienced surgeon. Patients were followed up one year later. Follow up was performed by another specialist in our facility, who was blinded of the procedure performed.
Objectives of the study were to compare the objective recurrence rate, subjective recurrence rate, and satisfaction with procedure one year after the procedure. Objective recurrence was defined as anterior compartment prolapse stage ≥2 assessed by the POP-Q system. Subjective recurrence was defined as positive response to the question, “Do you usually have a bulge or something falling out that you can see or feel in your vaginal area?”. Satisfaction rate was evaluated on a scale from 0 (not satisfied at all) to 5 (extremely satisfied).
A power study calculation required 42 patients to be recruited, to have a 90% power, or 32 patients to have 80% study power. Data was analysed using SPSS Statistics programme. Statistical analysis included descriptive statistics and non-parametric tests to compare the data between and within groups. Statistical significance was set at $p<0.05$.

RESULTS

We enrolled 44 patients in our study, 22 in each group. Thirty-four patients out of 44 attended the follow-up one year after surgery (77% response rate), sixteen patients in AC group and eighteen patients in TOLS group. Descriptive statistics of patients in both groups are presented in Table 1.

Objective recurrence rate in AC group was 62.5% (10/16) and 27.8% (5/18) in TOLS group. There were significantly less recurrences in TOLS group (p-value=0.045). Subjective recurrence rate in AC group was 25% (4/18), and 16.7% (3/18) in TOLS group. There was no significant difference between two groups. Mean satisfaction rates with procedure in AC and TOLS groups were 4.37 ± 1.3 (range 0-5) and 4.38 ± 0.72 (range 3-5), respectively. There was again no significant difference between two groups.

Table 1: (Descriptive statistics for AC and TOLS patient population. Legend: SD = standard deviation, BMI = body mass index)

	AC				TOLS				p-value
	Mean	Min.	Max.	SD	Mean	Min	Max	Std. dev.	
AGE (years)	66.6	44	79	9.6	63	48	79	9.2	0.887
BMI (kg/m2)	27.9	23.6	34.4	2.9	25.8	17.7	29.1	2.8	0.928
Preoperative Aa value	1	0	2.5	0.7	1.1	0	3	1	0.121
Preoperative Ba value	1.6	0.5	4.5	0.9	1.5	0	6	1.4	0.384

INTERPRETATION OF RESULTS

According to our preliminary results, anterior wall repair with concomitant TOLS results in significantly lower objective recurrence rate one year after the procedure, but it did not seem to affect the subjective recurrence rate or patients' satisfaction rate. In the future, we are planning to follow these patients to investigate whether this difference persist and also affects patients' symptoms of prolapse recurrence and/or satisfaction rate.

The main objective of TOLS is to provide additional support for the anterior vaginal wall by addressing the lateral defect. In this way, it is similar to transvaginal mesh, but instead of mesh, sutures are used to create the support. Since transvaginal mesh is banned in several countries, TOLS might represent the alternative for women with anterior vaginal wall prolapse. Moreover, it can be performed in local anaesthesia and the patients can be discharged on the same day. However, long-term studies on larger number of patients will have to confirm its efficacy and safety.

CONCLUSIONS

Concomitant TOLS in time of anterior vaginal wall repair results in lower objective recurrence rate one year after the procedure compared to AC alone.

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14 - BODY AWARENESS AND PELVIC ORGAN PROLAPSE SYMPTOMS: A LONGITUDINAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) presents with symptoms of varying intensity and distress among different women, often leading to a mismatch between symptom severity and the objectively measured degree of prolapse [1]. To date, there has been limited research on the factors influencing symptom intensity and distress in women with prolapse. Personal and psychosocial factors significantly affect overall physical and mental health. An individual's attentional focus and body awareness can influence symptom perception, pain, and behavioral responses to illness. However, the relationship between symptom severity, distress from POP, and factors such as body perception and awareness remains unexplored.

This study aims to investigate how body interoceptive awareness, sense of body agency, bodily boundary violations, self-objectification, and pain catastrophizing relate to the severity of pelvic organ prolapse symptoms. Furthermore, the study examines how exposure to sexual trauma in both childhood and adulthood affects the severity of prolapse symptoms.

MATERIALS AND METHODS

In this longitudinal study, we recruited patients seeking consultation for pelvic organ prolapse at a urogynecological clinic in a single medical center. The patients underwent a medical evaluation, including a urogynecological examination providing information on prolapse stage according to the Pelvic Organ Prolapse Quantification System (POP-Q), and a cough-stress test. During the initial consultation, women completed the following self-report questionnaires: Pelvic Floor Distress Inventory (PFDI-20), a questionnaire on traumatic events in childhood and adulthood (Childhood Trauma Questionnaire – CTQ and Stressful life events), a questionnaire on post-traumatic symptoms (International Trauma Questionnaire – ITQ), a body awareness questionnaire (Multidimensional Assessment of Interoceptive Awareness, Version 2 -MAIA-2), self-objectification (Objectified Body-Conscious Scale), boundary disturbances (Body Boundaries Survey - BBS), and pain catastrophizing (The Pain Catastrophizing Scale).

RESULTS

The sample included 42 participants, aged 39-84. Prolapse severity was assessed using the POPQ system: 73.8% (31) were classified as Stage 3, 16.7% (7) as Stage 2, and 9.5% (4) as Stage 4. The participants completed self-report questionnaires: the PFDI-20 for reporting pelvic floor symptoms, the Pain Catastrophizing Scale, and the Multidimensional Assessment of Interoceptive Awareness, Version 2 (MAIA-2). No significant correlation was found between PFDI-20 scores and POP stage according to POP-Q ($r = 0.25$, $p = 0.11$). However, the interaction between POP stage and body awareness, particularly the attention to changes in body sensations (including uncomfortable, comfortable, and neutral sensations), approached statistical significance in predicting PFDI-20 scores ($p = 0.055$) (Figure 1). Analysis of the interaction between prolapse stage and body awareness, specifically attention regulation (the ability to sustain and control attention to body sensations), was significant in predicting PFDI-20 scores ($p = 0.048$) (Figure 2).

Among women with high levels of body awareness, we found a significant association between the prolapse stage and reported pelvic floor symptoms ($p < 0.05$). In contrast, no such association is observed in women with low to moderate

body awareness. The interaction between prolapse stage and pain catastrophizing did not significantly predict PFDI-20 scores. No correlation was found between sexual abuse history and PDFI-20 scores.

INTERPRETATION OF RESULTS

In this preliminary analysis of data, we found a significant association between the stage of prolapse, bother from POP symptoms and body awareness, specifically attention regulation. In women with high levels of body awareness, we found a positive association between prolapse stage and pelvic floor symptom bother, while in women with low and moderate levels of body awareness we found no such association.

CONCLUSIONS

The results of the current study indicate that psychological traits, such as levels of body awareness and attention regulation ability, are important parameters influencing the level of bother from POP symptoms. In the current cohort, we failed to identify an association between bother from POP symptoms and either pain catastrophizing or a history of sexual abuse. A larger sample is likely to provide more definite information on these factors. Longitudinal follow-up of this cohort can add important information on the relationship between the psychological traits assessed and satisfaction from treatment.

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Figure 1

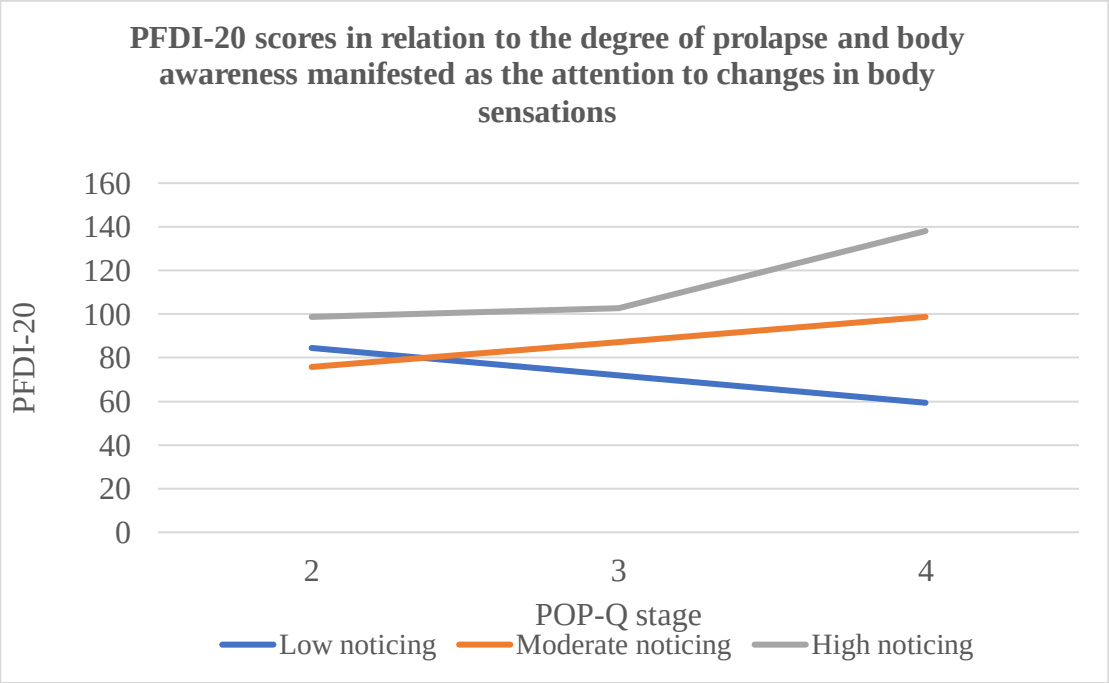
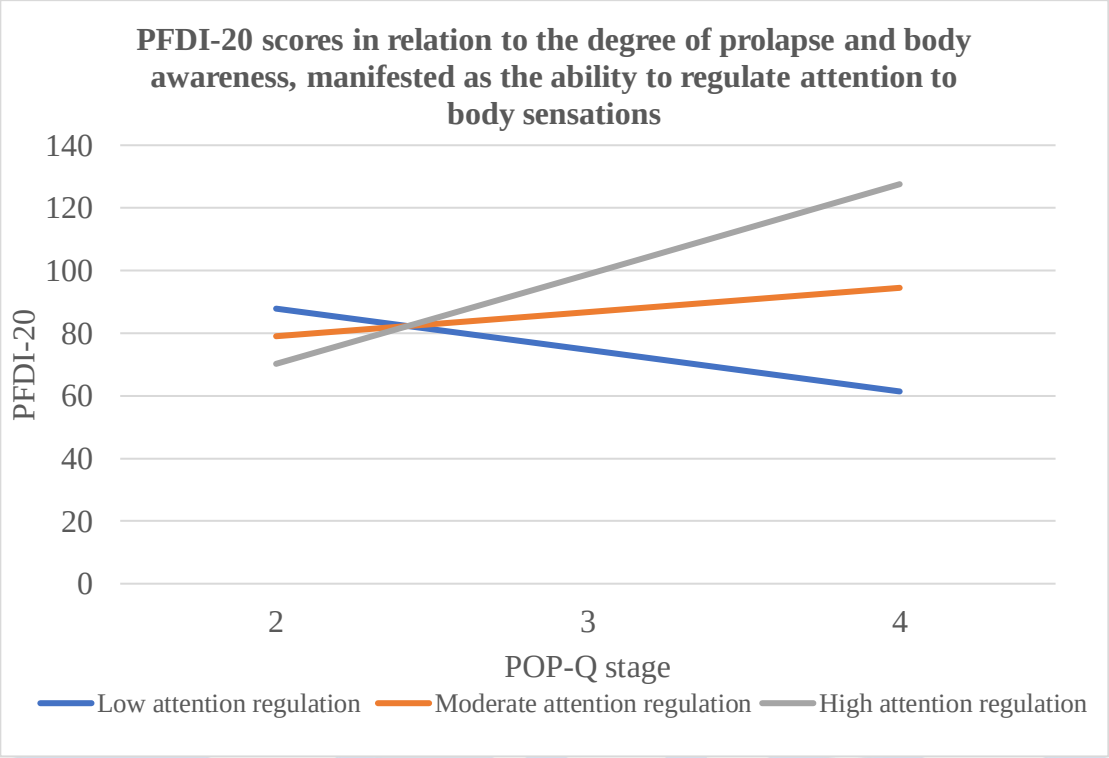


Figure 2



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15 - A WEB-BASED DECISION AID FOR SHARED DECISION MAKING IN PELVIC ORGAN PROLAPSE: THE SHADE-POP TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a prevalent condition among women worldwide. There are three primary treatment options for POP: pelvic floor muscle training, pessary treatment, and prolapse surgery. As none of these treatment options is clearly superior, shared decision making (SDM) plays a critical role in the management of POP. Decision aids (DAs) are known to enhance patient participation and support SDM. The aim of this study is to evaluate the effect of a web-based DA for women with POP regarding patient satisfaction with care, decisional regret and changes in treatment choice, 2 years after treatment choice.

MATERIALS AND METHODS

This two-arm, multicentre, cluster-randomized controlled trial was conducted among women with POP in five hospitals in the Netherlands. Participants in the control group received usual care (UC), while those in the intervention group received access to a DA in addition to UC. The Patient Satisfaction Questionnaire Short Form (PSQ-18) and Decision Regret Scale (DRS) were used. In addition to asking patients if any changes in treatment choice were made during the follow-up period, electronic patient records were reviewed. Data were analysed using t-tests, Chi-squared tests and multilevel linear regression analyses.

RESULTS

96 women with POP filled out the baseline questionnaires and 62 completed the 2-year follow-up. Between the DA group (n=29) and the UC group (n=33) no significant differences were found concerning patient satisfaction with care (p=0.41). Decisional regret was low with scores of 15.96 and 15.46 out of 100 in the DA and UC group respectively (p=0.93). 10 patients in the DA group and 16 patients in the UC group changed treatment during the 2-year follow-up period (p=0.27).

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INTERPRETATION OF RESULTS

Our DA for women with POP did not have an effect on patient satisfaction with care, decisional regret or continuation of the chosen treatment option 2 years after treatment decision making.

CONCLUSIONS

We collected unique data in patients with POP by following satisfaction with care, changes in treatment choice and decisional regret during 2 years. A web-based DA does not seem to have an effect on those parameters, which may be attributed to the high baseline satisfaction levels among patients, as a result of the effective education and counselling by clinicians in the participating hospitals.

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16 - OPTIMIZING CYSTOCELE REPAIR - DEFECT ORIENTED SURGICAL TREATMENT

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Pelvic organ prolapse (POP), particularly cystocele, is a significant clinical issue, especially within the aging population. Cystocele is the most common type of POP, affecting 34.3% of women according to the Women's Health Initiative. The condition arises from multifactorial causes, including anatomical, genetic, and lifestyle factors, and is often treated surgically. Traditional methods like anterior colporrhaphy exhibit recurrence rates even of 55% without mesh and 33% with mesh (p=0.002). However, the use of mesh has been associated with higher risks of complications, such as mesh erosion, reoperation, bladder injury, and de novo stress urinary incontinence, leading the FDA to ban transvaginal mesh for POP in 2019.

This study aims to evaluate the outcomes of defect-oriented surgical approaches in treating cystocele, focusing on reducing recurrence rates and minimizing complications. It proposes a shift from generalized surgical approaches, such as routine hysterectomy or anterior colporrhaphy, to more tailored methods based on precise classification of cystocele causing defects. Understanding the specific defect types, including lateral and medial at level II, apical defects, and mixed variations, allows for more effective surgical planning.

MATERIALS AND METHODS

A cohort of 304 women (mean age 57, 59.9% postmenopausal, mean BMI 25.7 kg/m2) underwent comprehensive urogynecological examinations using Kristeller's double specula and pelvic floor sonography to classify defects causing cystoceles into five subtypes:

1. Lateral defect at level II: Treated with laparoscopic lateral repair or anterior colporrhaphy using mesh.

2. Medial defect at level II: Treated primarily with anterior colporrhaphy.

3. Apical defect: Managed using laparoscopic hysterosacropexy or laparoscopic supracervical hysterectomy (LASH, for additional indications like uterine fibroids) and subsequent cervicosacropexy.

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4. Mixed apical and lateral defect: Combination of laparoscopic hysterosacropexy with lateral repair.

5. Mixed apical and medial defect: Laparoscopic hysterosacropexy with anterior colporrhaphy.

The observation period was between 6 months and 3 years.

RESULTS

The study results demonstrate a marked reduction in recurrence rates with tailored surgical approaches compared to traditional methods. The distribution of cystocele types was as follows: central defect (5.9%), apical defect (16.1%), lateral defect (30.6%), mixed apical-medial (8.6%), and mixed apical-lateral (38.9%). Over the follow-up period, 10 patients (3.3%) experienced recurrences. Notable findings include a 6.5% recurrence rate in lateral defect repairs, a 5.6% recurrence rate in central defect repairs, a 2.0% recurrence rate in apical defect repairs, and a 0.8% recurrence rate in mixed apical-lateral defect repairs. Mixed apical-medial defect repairs had a 7.7% recurrence rate.

- Lateral defects: 30.6%, n=93, 6.5% recurrence rate (6/93).

- Medial defects: 5.9%, n=19, 5.6% recurrence rate (1/18).

- Apical defects: 16.1%, n=49, 2.0% recurrence rate (1/49).

- Mixed apical and lateral defects: 38.9%, n=118, 0.8% recurrence rate (1/118).

- Mixed apical and medial defects: 8.6%, n=26, 7.7% recurrence rate (2/26).

INTERPRETATION OF RESULTS

The results indicate that the novel, tailored surgical approach significantly reduces recurrence rates compared to 48% recurrence rate reported by Dietz for anterior colporrhaphy. The lowest recurrence rates were observed in mixed apical-lateral defect repairs, suggesting the effectiveness of comprehensive surgical strategies. The higher recurrence rate in mixed apical-medial defects underscores the complexity of treating such cases and the need for refined techniques. The data suggest that a defect-oriented approach to cystocele surgery, which avoids unnecessary procedures such as hysterectomy, can lead to better outcomes in terms of recurrence and patient satisfaction. Such an approach considers the individual defect types, focusing on restoring pelvic floor anatomy while minimizing the risks associated with more invasive surgeries. The results align with existing literature showing the benefits of individualized surgical planning but also highlight areas requiring further research, such as the impact of specific surgical methods on long-term outcomes.

CONCLUSIONS

This study demonstrates that a tailored approach to diagnosing and treating cystocele taking into consideration the specific defects causing the cystocele, not just the cystocele as a clinical presentation leads to substantially lower recurrence rates. By classifying cystoceles based on defect type and employing appropriate surgical interventions, we achieved lower recurrence rates compared to those reported in the literature. The results support a shift towards personalized surgical strategies and highlight the need for continued research to optimize treatment protocols and improve patient outcomes in pelvic organ prolapse management. Future multicenter studies are recommended to validate these findings and further refine surgical techniques for enhanced efficacy and patient safety.

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17 - ILIOCOCCYGEUS FIXATION FOR THE TREATMENT OF VAGINAL VAULT PROLAPSE: A SYSTEMATIC REVIEW AND META-ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

The aim of this study is to evaluate the efficacy and safety of the Iliococcygeusfixation technique for the treatment of vaginal vault prolapse performing a review of the current literature on this technique. In 2023 the European Urogynaecological Association (EUGA) published a position statement that consistentlyproved the feasibility, hight effectiveness and safety of the native tissue repair (NTR) surgical approach and recommended it for most cases of primary pelvic organs prolapse (POP)rather than prosthetic surgery. (1) Concerning the vaginal vault prolapse (VVP) surgical approach, the literature evidences are more heterogeneous and the international indications are less direct. Parallel to the decline of prosthetic vaginal
meshes after the FDA warning in 2019, the use of sacrocolpopexy (SCP) has grown rapidly because of its effectiveness; however, when compared with NTR, SCP is more commonly associated with serious
adverse events. Indeed, NTR remains the standard approach for the treatment of VVP. (2) Sacrospinous ligament fixation (SSLF) and Uterosacral ligament suspension (USLS) are the mostused native tissue surgical techniques for apical prolapse. These procedures showedexcellent subjective and objective cure rate but high rate of mild complications such as pain anddyspareunia. (3) To minimize these risks, Inmon introduced an alternative technique in 1963.This surgical technique involves primarily a dissection of the vaginal wall from the rectum and the underlying rectovaginal fascia (performed cephalically tothe cuff and laterally to the levator fascia) and the identification of the fascia overlying the iliococcygeal muscle, then the placement of non-absorbable stitchesin the iliococcygeal fascia laterally to the rectum and anteriorly to the ischial spine. These sutures are passed to the vagina and then tied bringing the vaginal axis into posteriorposition and the vaginal epithelium into direct apposition on the iliococcygeal fascia.
Only a few cohortsof heterogeneous studies in the literature have examined the efficacy and safety of
ICF as an option for the treatment of VVP even if some study demonstrate optimal long-term results with minimal complication rate of this technique. For this reason, a review and meta-analysis of the studies on ICF seems necessary for truly understanding the potentialities of this technique, and it also seems useful for surgical decision-makingin managing VVP.

MATERIALS AND METHODS

A systematic literature research was performed according to the Preferred Reporting Itemsfor Systematic Reviews and Meta-Analyses 2020 guidelines. The used databases were PubMed/MEDLINE and Cochrane CENTRAL. The analysis included randomized controltrials and observational prospective or retrospective cohort studies that assessed the Iliococcygeusfixation, in terms of overall cure rate, failure rate, reoperation rate, and complications rate.1395 articles were identified up to 31 December 2023. After the exclusion of 1307 publications (313removed for duplication, 582

marked as ineligible and 412 excluded for other reasons), 88 originalarticles were selected for screening. Among these, only 7 met the inclusion criteria. Among these, only 6 were considered for quantitativeanalysis.

RESULTS

The overall cure rate ranged from 74.4% to 98% in the considered studieswith a pooled value of 84.9% (95%CI = 73.3% to 96.4%). The overall failure rate ranged from4.8% to 23% with a pooled value of 13.6% (95%CI = 5.5% to 21.7%) while the pooled value ofoverall re-operation rate was 3.3% (95%CI = 0.6% to 6%), ranging from 0% to 6.8. The overallcomplication rate ranged from 0% to 33% with a pooled value of 10.4% (95%CI = 1.4% to 19.3%).

INTERPRETATION OF RESULTS

The outcome considered were:
- Effectiveness: subjective evaluation defined as women without prolapse symptoms (evaluatedthrough self-reported symptoms and/or validated questionnaires) and/or objective evaluation,defined as stage prolapse <2 and no need for other surgery.
- Safety: the rate of complications.

From this first metanalysis ICF appears both an effective and safe technique.

CONCLUSIONS

Despite limitations due to the heterogeneity of study designs, our review, for the firsttime in the literature, demonstrated that fixation of the Iliococcygeus appears to be an effective andsafe option for the treatment of vaginal vault prolapse. However, future randomized controlled trialswith rigorous methodological protocols are needed.

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18 - SACROPEXY USING THE TENDON OF THE SEMITENDINOSUS MUSCLE - 12 MONTH FOLLOW-UP OF THE WORLD'S FIRST ROBOTIC-ASSISTED OPERATIONS

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INTRODUCTION AND AIM OF THE STUDY

Due to the increasing desire of patients and surgeons to avoid the insertion of foreign material, the demand for homologous tissue in urogynaecological operations with good long-term outcome is increasing.

MATERIALS AND METHODS

Between June 2022 and February 2023, the world's first robotic-assisted sacropexies for apical organ prolapse using the tendon of the semitendinosus muscle were performed. With a long-term follow-up of 12 months, the outcome of the first ten patients was examined as part of a monocentric analysis. This included the German Pelvic Floor Questionnaire as well as clinical examinations including POP-Q score (pelvic organ prolapse quantification) preoperatively, at the time of discharge and after three and 12 months postoperatively.

RESULTS

The median age was 55 years (range 44 - 70), the average BMI was 26 kg/m^2 (range 21 - 29). Seven patients had a POP-Q score grade II (70 %), three patients grade III (30 %). None of the patients had recurrent apical prolapse at the time of surgery. There was a significant improvement in the areas of bladder function and total score of the German Pelvic Floor Questionnaire compared to three months postoperatively (3.85 vs. 1.61, $p = 0.034$; 12.79 vs. 3.28, $p = 0.034$) (Figure 1). Prolapse symptoms improved significantly between preoperative and 12 months postoperatively (4.74 vs. 0.67, $p = 0.022$) (Figure 1). The POP-Q score was significantly lower on discharge from hospital than preoperatively (2.2 vs. 0, $p = 0.004$) (Figure 2). There were no serious complications.

INTERPRETATION OF RESULTS

The robotic-assisted approach is particularly helpful in patients with obesity or abdominal adhesions and, thanks to its comprehensive trocar mobility, enables good access for the various steps of the procedure, such as nerve-sparing dissection, opening of the longitudinal ligament and placement and attachment of the tendon.

CONCLUSIONS

Robotic-assisted sacropexy using the tendon of the semitendinosus muscle is a safe and practicable surgical technique with excellent long-term results.

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Figure 1:

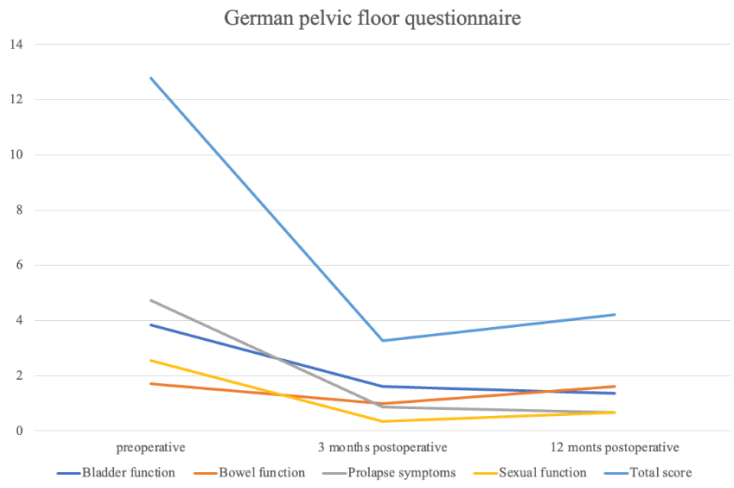
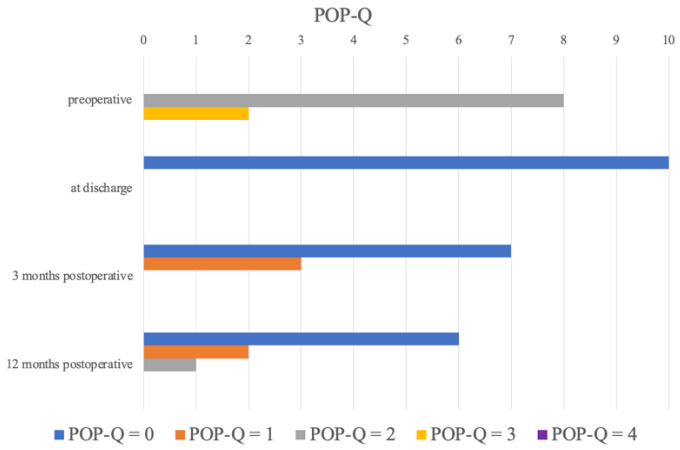


Figure 2:



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19 - COMPARISON OF ANTERIOR VAGINAL WALL REPAIR PLUS MCCALL CULDOPLASTY AND LAPAROSCOPIC HYSTEROPEXY BY LATERAL SUSPENSION FOR APICAL AND ANTERIOR VAGINAL WALL PROLAPSE

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INTRODUCTION

Since prosthetic surgery for vaginal prolapse and native tissue repair have different characteristics and it is not always obvious which technique is more effective in a specific setting, more and more concern is raised on the way to compare various techniques.[1]

AIM OF THE STUDY

To compare the relapse rate of anterior vaginal wall repair plus McCall culdoplasty and laparoscopic hysteropexy by lateral suspension (LLS).

MATERIALS AND METHODS

We conducted a retrospective comparison on women undergoing anterior vaginal wall repair plus McCall culdoplasty after vaginal hysterectomy or LLS for anterior and apical prolapse between January 2007 and April 2024 at our Centre. Before and after the surgical treatment we performed a complete anamnesis, clinical and ultrasound examination with urogynaecological assessment, assessment of the prolapse through POP Quantification System (POP-Q).
We evaluate potential differences in anterior and central recurrence rates over time. Recurrence of prolapse after surgery was defined as a descent equal to or greater than stage II according to the POP-Q system.
The study was conducted in accordance with the 1964 Declaration of Helsinki.

RESULTS

The two populations were comparable in age, Body Mass Index (BMI), parity and preoperative POP-Q values, while the average operating time was longer for the LLS group ($p < 0.001$). Follow-up time was longer for the native tissue repair group (35,6 +/- 26,1 vs 12,1 +/-11,1). Table 1.
Women undergoing anterior vaginal wall repair plus McCall culdoplasty (n = 56), compared with those treated with LLS (n = 26), showed a lower risk of stage II anterior recurrence ($p = 0.025$) over time at Kaplan-Meier curves (Figure 1). There was no difference for central or stage III anterior recurrence during the follow-up period.
None of the women who had a recurrence were reoperated or required the insertion of a vaginal pessary, except one patient in the LLS group who was subsequently treated with robotic subtotal hysterectomy and cervicosacropexy ($p = 0.14$). Moreover erosion rate of the MESH in the LLS group was 3.8% with only one affected patient who was managed conservatively. No other peri- or post-operative complications differed significantly between the two methods. Table 2.

Table 1

	VAGINAL (56)	LLS (26)	p
AGE	63,23 (+/- 6,08)	60,12 (+/- 7,35)	0,067
BMI	25,32 (+/- 3,34)	24,96 (+/- 3,67)	0,673
PARITY	1,93 (+/- 0,99)	1,88 (+/- 0,65)	0,812
Aa	1,85 (+/- 1,3)	2,3(+/- 0,84)	0,059
Ba	2,77 (+/- 1,46)	3,19 (+/- 1,47)	0,229
C	1,29 (+/- 2,9)	1,19 (+/- 3,2)	0,89
tvl	7,25 (+/- 1,19)	7,62 (+/- 1,02)	0,16
Ap	-1,21 (+/- 1,58)	-1,62 (+/- 1,27)	0,213

Bp	-1,22 (+/- 1,59)	-1,58 (+/- 1,33)	0,298
gh	4,65 (+/- 1,02)	4,65 (+/- 0,69)	0,991
pb	2,74 (+/- 0,58)	2,5 (+/- 0,58)	0,083
OPERATING TIME (MIN)	86,46 (+/- 25,25)	192,12 (+/- 50,62)	< 0,001
FOLLOW-UP TIME (MONTHS)	35,63 (+/- 26,06)	12,12 (+/- 11,11)	< 0,001

All values are expressed as mean (+/- standard error)

Figure 1
Stage II anterior recurrence

Recurrence rate over time

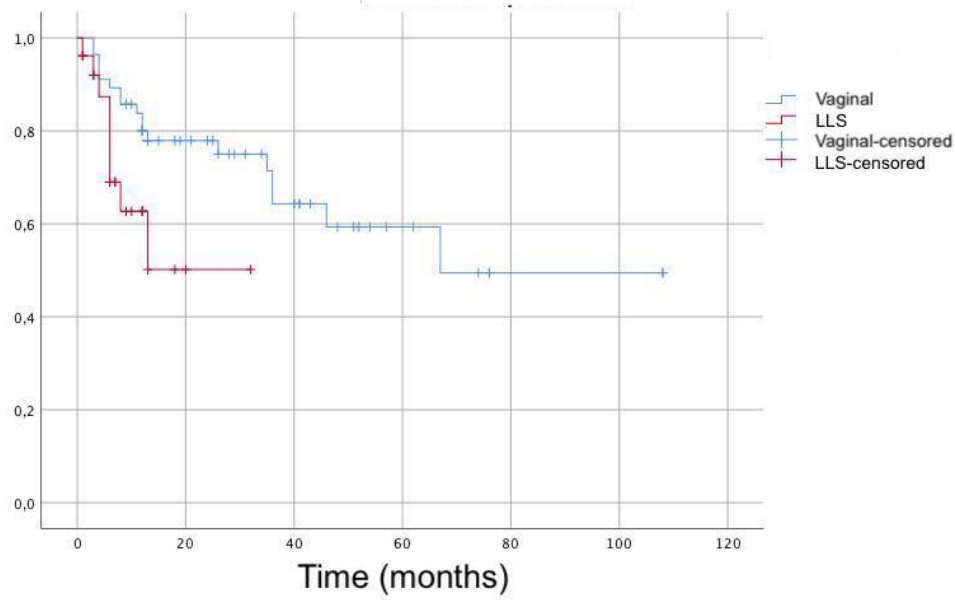

Table 2

	VAGINAL (56)	LLS (26)	p
BLADDER/URETERAL INJURY	0	0	
FEVER	1	3	0,56
URINARY TRACT INFECTION	2	1	0,95
REOPERATION/PESSARY	0	1	0,14

All values are expressed as mean (+/- standard error)

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INTERPRETATION OF RESULTS

Nowadays, mesh insertion via abdominal procedures for the repair of pelvic organ prolapse is recommended in case of recurrence after hysterectomy,[2] but some Authors also propose it as the first choice of treatment.[1,3] In particular, LLS is a safe technique with proven effectiveness in repairing the anterior and central compartment[4] and it is often preferred to a vaginal approach.[1] In our series, however, the effectiveness of native tissue repair in this setting would appear to be non-inferior, indeed it would appear to bring a lower rate of second-degree recurrence on the anterior compartment. Furthermore, despite the comparable rate of peri- and post-operative complications, the vaginal approach involves fewer anesthetic risks for women and a shorter average duration of surgery.
Further randomized control trials on larger populations with more homogeneous follow-up times are needed.

CONCLUSIONS

Anterior vaginal wall repair plus McCall culdoplasty after vaginal hysterectomy seems to be as effective as laparoscopic hysteropexy by lateral suspension (LLS) in the surgical management of anterior and apical pelvic organ prolapse.

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20 - IS A LEVATOR AVULSION A RISK FACTOR FOR SACROCOLPOPEXY FAILURE?

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INTRODUCTION AND AIM OF THE STUDY

Previous studies have shown that the pelvic floor, particularly the levator ani muscle, affects the probability of POP recurrence after previous reconstructive surgery. This influence is most pronounced in traditional vaginal reconstructive procedures, where avulsion injuries increase the risk of failure by up to 60%. However, the exact risk associated with the surgical management of POP using laparoscopic sacrocolpopexy (laparoscopic mesh implantation and suspension of the vagina to the sacral promontory) is not well defined. Only one study suggests that the pelvic floor may not impact the outcome of laparoscopic sacrocolpopexy. This study aims to test the hypothesis that the avulsion of the musculus levator ani increases the objective failure of surgical treatment while also looking for other ultrasound-detectable factors of surgical failure like mesh location.

MATERIALS AND METHODS

This is part of a prospective study including 64 women undergoing laparoscopic sacrocolpopexy between 2014 and 2016. All women underwent a preoperative examination (POPQ classification) and a 4D pelvic floor ultrasound examination before and after surgery. The postoperative follow-up was performed at least 12 months after surgery. Avulsion was diagnosed by abnormal insertion of m.levator ani in all three successive slices in a plane of minimal hiatal dimension (distance from the urethra to m. levator ani >25 mm). After surgery, the distance of the mesh, the distance of the lowest part of the anterior wall lower margin of the symphysis were measured. If the object is below the lower margin of the symphysis the values are positive and vice versa. The failure of surgery was considered if the lowest part of the anterior wall or apex on ultrasound was 10mm below the lower margin of the symphysis pubis, as previously standardized**.**

RESULTS

In our cohort the was mean BMI: 26.73 (SD: 3.56), the mean age: 61.25 years (SD: 9.80 years), the mean parity: 2.06 (SD: 0.70), The mean first baby weight: 3610g (SD: 419g)

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The failure rate according to the ultrasound criteria was 13.4% (9 cases)

	Failure	**Non-failure**	**p -value**
Age (years)	**60.78** (SD: 8.80)	**61.33** (SD: 10.01)	0.86
BMI	**27.14** (SD: 2.80)	**26.67** (SD: 3.68)	0.66
Parity	**2.11** (SD: 1.27)	**2.05** (SD: 0.58)	0.11
Avulsion rate	**100%**	**89.7%**	0.58
Ultrasound **- distance of the lowest point of the anterior wall to lower margin of symphysis** (mm)	**15.8** (SD: 5.6)	-**4.8** (SD: 0.84)	**<0.01**
Ultrasound **- distance of the lowest point of the mesh from the lower margin of symphysis** (mm)	**4.3** (SD: 12.4)	**-4.5** (SD: 9.2)	0.07
POPQ - Ba pre-op (cm)	**5.75** (SD: 1.91)	**3.22** (SD 2.31)	**0.01**
POPQ - C pre-op (cm)	**4.50** (SD: 2.93)	**2.59** (SD 2.44)	0.11

Univariate analysis:

Avulsion OR: 1.02 - 95% [CI: 0.11, 40.50], p-value: 0.63

Age OR: 0.41 - 95% [CI: 0.09, 1.78] p-value: 0.23

BMI OR: 1.25 - 95% [CI: 0.30, 5.13] p-value: 0.76

Parity: OR: 0.32 - 95% [CI: 0.07, 1.54] p-value: 0.16

POPQ Ba pre-surgery OR 1.66 CI: [1.14, 2.427] p-value **0.01**

POPQ C pre-surgery OR 1.33 CI: [0.99, 1.77] p-value 0.06

INTERPRETATION OF RESULTS

Avulsion does not appear to increase the risk of surgery failure in this model, but it needs to be acknowledged, that there is a high avulsion rate (91%) in our cohort. On the other hand, even with such a high avulsion rate the failure rate is only 13%, which is plausible with the interpretation above. A significant predictor of sacrocolpopexy failure in our study group seems to be point Ba in the POPQ classification with OR 1.66. This implies with most common site of failure, which is the anterior compartment.

CONCLUSIONS

Our findings suggest that in patients with prolapse and with avulsion of levator ani the sacrocolpopexy is a method of choice with the expectation of a high success rate. Attention needs to be paid to the anterior compartment as a key compartment for failure. While demographic factors do not play such a significant role. To find answers for the mechanism of failure the data of mesh location in the context of the bladder neck need to be included in further studies.

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21 - ULTRASOUND POSITIONAL VARIABLES THAT BEST PREDICT POSTOPERATIVE OUTCOMES OF TENSION-FREE VAGINAL TAPES

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INTRODUCTION

Urinary incontinence is a highly prevalent condition that frequently requires surgical treatment with a tension-free transobturator tape (TOT), achieving favorable outcomes in approximately 80% of cases. However, some patients do not improve or may worsen after surgery. This pilot study aims to identify the bi-dimensional and three-dimensional ultrasound positional variables that most accurately correlate with the patients' clinical outcomes.

OBJECTIVE

To assess the association between the ultrasound-determined position of the TOT and clinical outcomes, evaluated as terms of symptom resolution, persistence, voiding dysfunction, or developing "de novo" overactive bladder.

MATERIAL AND METHODS

This is a prospective pilot study including women with stress urinary incontinence treated with a TOT (model Swing-Band ®SB3 Tramedic Div. Neocure, France). Patients with previous anti-incontinence or prolapse surgeries were excluded. Each participant underwent a baseline evaluation and follow-up visit three months after surgery, including medical history, physical examination, and completion of ICQ-SF and EPIQ questionnaires. Two-dimensional transperineal ultrasound with a Voluson E10 of General Electric was employed to measure residual urine volume, urethral length and thickness, urethral mobility, and contraction. At the three-month follow-up, we also assessed positional and TOT shape variables, both at rest, contraction and during Valsalva maneuver, using 2D and 3D ultrasound parameters. In the two-dimension examination, we registered the same parameters as in the basal evaluation, as well as shape of the mesh (flat or C-form), third of placement, distance from the mesh to urethral orifice, lumen, pubic symphysis and vesical neck, at rest, contraction and Valsalva. With 4D examination we assessed distance from the mesh to lumen, distance to the sphincter, 4D mesh angle and distance of the mesh to the most external part of the sphincter in 4D (effort, Valsalva, and contraction). Depending on the data collected from ICQ-SF and EPIQ clinical results were considered as cured, persistence, voiding disfunction and overactive bladder. Data were collected in REDcap and analyzed using SPSS.

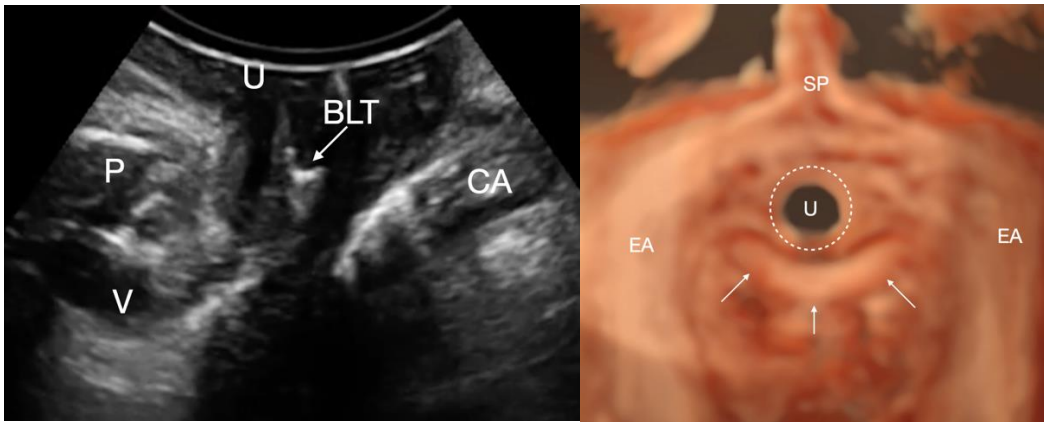

Figure 1 (left): 2D Sagittal Plane Showing the Tension-Free Vaginal Tape (TVT) as a Hyperechoic Suburethral Image.

P: Pubis /U: Urethra/ V: Bladder/ CA: Anal Canal / BLT: tension-free-tape

Figure 2 (right): three-dimensional plane of elevator ani showing trans-vaginal transobturator tape (arrows), urethral lumen (U) and urethral sphincter.

RESULTS

The analysis included 47 patients with a mean age of 55 years, a mean BMI of 27, an average elevator hiatus area of 21.52 cm², 21% with avulsion, and 14% with pelvic organ prolapse. No ultrasound variable demonstrated a significant association with either symptom resolution or persistence, measured by the questionnaires. However, a higher distance from TOT to the meatus during contraction was associated with voiding disfunction. Additionally, a closer proximity of the TOT to the pubic symphysis during Valsalva and to the sphincter at rest was correlated with an increased risk for overactive bladder. There was also an association between of "de novo" overactive bladder with shorter distance from TOT to lumen.

Resolution (34/47)						
		Mean	*SD*	*p*	*Reg. Log.*	
					p	*OR IC 95%*
Mid-Distal Urethral Third of TOT	UI	23.4*	---------	0.01	n.s	
	No UI	72.34*	---------			
TOT to neck at rest in 2D	UI	20.09	3.77	0.04	n.s	
	No UI	22.88	5.23			
Persistence (13/47)						
TOT to neck at rest in 2D	Persistence	19.55	4.19	0.02	n.s	
	No UI	23.27	5.11			
TOT to neck at Valsalva in 2D	Persistence	16.57	4.79	0.04	n.s	
	No UI	19.85	5.09			
Voiding disfunction (6/47)						
TOT to meatus in contraction 2D	Disfunction	20.26	4.29	0.045	-----	
	No Disfunction	15.86	4.79			
Overactive bladder (14/47)						
TOT to lumen at rest in 2D	No OB	6.68	1.94	0.03	n.s	
	OB	5.4	1.75			
TOT to lumen at Valsalva in 2D	No OB	5.56	2.94	0.04	n.s	
	OB	4.09	1.69			

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TOT to symphysis at Valsalva 2D	No OB	16.08	3.56	0.01	0.04	0.54 (0.30-0.97)
	OB	13.61	2.62			
TOT to neck at Valsalva 2D	No OB	21.13	6.05	0.04	n.s	
	OB	17.85	4.41			
TOT to lumen at rest 4D	No OB	7.69	1.74	0.03	n.s	
	OB	6.05	1.54			
TOT to sphincter at rest 4D	No OB	1.25	1.5	0.01	0.04	0.38 (0.15-0.99)
	OB	0.15	1.11			
Overactive blader "de novo" (6/47)						
TOT to lumen at rest 4D	VH de novo	5.26	1.71	0.011	-----	
	No VH de novo	10.42	1.93			
TOT to lumen at valsalve 4D	VH de novo	4.54	1.27	0.001	-----	
	No VH de novo	9.97	0.57			
TOT to lumen at contraction4D	VH de novo	4.81	0.58	0.001	-----	
	No VH de novo	8.37	1.01			

Table 2: *Significant variables in the univariate and multivariate analysis for each post-surgical clinical scenario.*

Values expressed as percentages. all other values are expressed as mean (mm) and standard deviation.

IU: urinary incontinence

CONCLUSION

The ultrasound position of the TOT is particularly associated with voiding dysfunction and overactive bladder symptoms. Larger-scale studies are required to establish definitive cut-off values for ultrasound variables that can reliably predict clinical outcomes.

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22 - OPINIONS OF GYNAECOLOGISTS ABOUT INDICATION AND TECHNIQUE OF PERINEOPLASTY

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INTRODUCTION AND AIM OF THE STUDY

Perineoplasty, also referred to as perineorrhaphy, is a surgical procedure performed frequently during prolapse surgery (1) to address various issues such as preventing recurrent prolapse (2), improving sexual function (3) and treating pain. Despite its frequent use, there is a lack of scientific evidence on the indication, adverse results and exact technique. We wanted to gain more insight into the practice variation between urogynaecologist

MATERIALS AND METHODS

We conducted a web based anonymous survey among all members of the International UroGynecological Association into reasons for surgeons to perform perineoplasty during prolapse surgery and details on their surgical technique

RESULTS

A total of 144 surgeons responded to the survey, virtually all (uro)gynaecologists (only 1 urologist) who performed perineoplasty (98%). 91% of the surgeons does excise tissue when performing a perineoplasty but the amount of tissue was individualized in 74%. By 85% of the surgeons the bulbocavernosus muscle is approximated and only 27% extended the suturing to the puborectal muscle. In 86% less than 4 sutures were used, most often a 2/0 (39%) or 0 (52%) suture.

Good or excellent indications for perineoplasty were mainly “wide genital hiatus at physical examination” (87%) and “subjective complaints of a wide genital hiatus” (84%), while “faecal incontinence”, “mild apical prolapse” and “perineal pain” were seen as absolutely/mostly not a good indication according to 65%, 76% and 75% of of its the surgeons. Reason for refraining from perineoplasty were current pain (59%) or dyspareunia (64%) or fear occurrence (47% and 60%) . Longer surgery time is not a reason to forgo the procedure for 86% of surgeons. On a scale of 1-10 the relevance of further research on the use of perineoplasty is rated as 7,9.

INTERPRETATION OF RESULTS

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We observed that, although there seemed to be agreement on the various indications when to perform a perineoplasty, there were also striking differences in respect to when to refrain from perineoplasty and how to perform the procedure. Surgeons from different continents made different considerations regarding the indication and surgeons with longer working experience made different choices when to refrain compared to surgeons with less experience. Notable was the difference in views regarding the scientific and clinical evidence for performing a perineoplasty. Only forty-six percent of the respondents believed there was scientific evidence while 80% of surgeons experience clinical evidence for performing the procedure

CONCLUSIONS

Perineoplasty is a commonly used technique however, there is substantial variation in techniques and indications. There is a need for further research on which patients can benefit from performing perineoplasty and exact description of its technique

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23 - MUSCULUS LEVATOR ANI COACTIVATION AND ITS POSSIBLE IMPACT ON MUSCULUS LEVATOR ANI POSTPARTUM

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a prevalent disorder, decreasing the quality of life and leading to a high count of surgeries among women. The vaginal delivery contributes to changes leading to POP via mechanical disruption (avulsion, Type II injury) or loss of muscle mass (Type I injury) of the levator ani muscle (LAM). These injuries were first described on MRI.[1] The etiology of "Type I injury" is unclear and possibly caused by denervation and micro-traumatization. For clinical evaluation of the LAM, the ultrasound is more accessible and offers dynamic scanning. Ultrasound measurements of LAM thickness and hiatal area are recently available correlates to possibly evaluate Type II injury. During the Valsalva maneuver, clinicians have described a phenomenon of LAM coactivation, also called paradox contraction. During LAM coactivation, the hiatal area on the Valsalva maneuver decreases instead of increasing in size. Persistent LAM coactivation in nulliparas present at term before the onset of labor has been described as associated with a longer second stage of labor.[2] To our knowledge, studies focusing on the correlation of LAM coactivation and LAM ultrasound measures postpartum have not been described. The hypothesis was that coactivation would be more present in women who delivered through assisted delivery and acute cesarean section. The second hypothesis was that women with coactivation would have a worse LAM injury, represented by an increase of levator urethral gap (LUG) and hiatal area on transperineal pelvic floor ultrasound (TPUS).

MATERIALS AND METHODS

A local ethical committee approved this secondary retrospective evaluation of available data. In the original prospective study, 3748 nulliparous women with singleton pregnancies were interviewed to participate in the study. For this study, we selected a cohort of women, where TPUS was available at the first trimester and six weeks postpartum. We collected the basic demographical and obstetrical data. The evaluation of TPUS followed Prof. Dietz's standard protocol. The genital hiatal area was measured at the rest and during the Valsalva. LAM coactivation was described as a decrease in the hiatal area during the Valsalva maneuver compared to the rest area. We also measured the LUG. The strength of coactivation in first trimester was calculated as the difference between hiatal area at rest and Valsalva. A paired t-test was used to compare dimensions before and after delivery. A linear regression statistic was used to correlate coactivation and hiatal area.

RESULTS

We identified 381 women with TPUS available at selected time points. The mean age was 31.5±3.3 years, BMI: 22.5±3.1. Vaginal delivery was successful in 225 women, four had assisted vaginal delivery, and 152 had a cesarean section (CS). In 112 cases, the CS was elective or acute during the first stage of labor. In 40 women, the CS was in the second stage of labor. In the first trimester, out of 381 women, LAM coactivation was present in 45 participants (12%).

Out of 225 women who delivered vaginally 30 (13%) exhibited coactivation, none with coactivation had assisted delivery, 14 with coactivation had acute CS in the first stage, and 1 in the second stage of labor.

Six weeks after the delivery, the hiatal area at the Valsalva significantly increased (16.06 ± 4.17cm^2 vs. 23.75 ± 5.37cm^2; $p < 0.001$) as did the right-sided LUG (2.07±0.28cm vs. 2.43 ± 0.49 cm; p=0.03). This difference was insignificant on the left-sided LUG (2.05±0.29cm vs. 2.50±0.52cm; p=0.18). A linear correlation was found between the strength of coactivation and an increase in the hiatal area (r= 0,4, Figure 1).

INTERPRETATION OF RESULTS

We observed coactivation only in 13% of women compare to 31% in published study.[2] In comparison to our hypothesis, we have not observed a specific increase of coactivation in women delivering by acute CS or assisted vaginal delivery. We found a moderate correlation between the strength of coactivation in the first trimester and increased hiatal area during the Valsalva postpartum. This may suggest that coactivation is a possible factor worsening the impact of vaginal delivery on the LAM. The study's strength is the availability of the first trimester ultrasound before being affected by late-stage pregnancy. The study's limitations are mainly the low percentage of women with assisted delivery in the study sample, the relatively low number of participants, and the retrospective design without power calculation aiming to study coactivation. The impact of coactivation on the course of labor and the long-term impact on the pelvic floor is not entirely understood. Investigation in this field is strongly desired as it may represent a prediction tool for women at high risk of LAM injury.

CONCLUSIONS

In our cohort, coactivation was not more frequent in women with assisted delivery or acute cesarean section. We found a moderate correlation between the strength of coactivation in early pregnancy and an increase in the postpartum hiatal area on Valsalva. Further, we aim to perform a prospective study with an optimized protocol, focusing on coactivation characteristics, detailed impacts on LAM, and longer-term follow-up.

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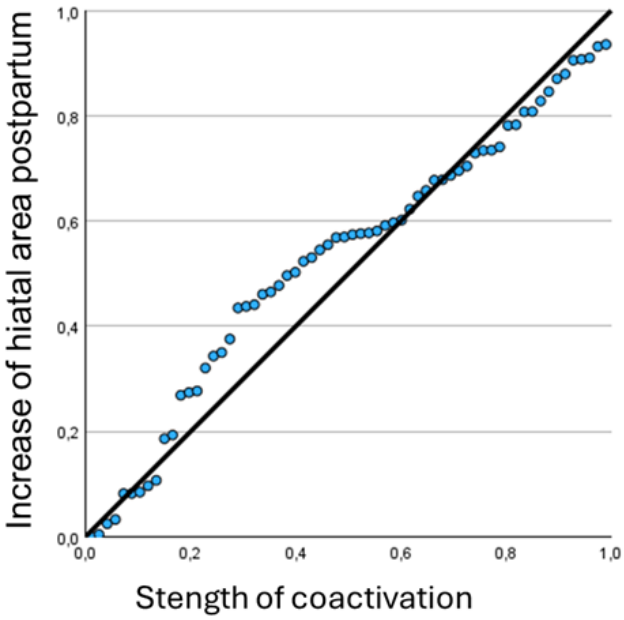
Figure 1: Linear correlation has been found between the strength of coactivation (first trimester: difference between hiatal area rest and Valsalva) and increase of hiatal area postpartum (diference between hiatal area at 6 weeks postpartum and first trimester at Valsalva).



24 - PREOPERATIVE EVALUATION OF CERVICAL LENGTH AND UTERINE CORPUS DESCENT IN WOMEN WITH SYMPTOMATIC APICAL PROLAPSE. HOW TO MEASURE?

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INTRODUCTION AND AIM OF THE STUDY

Symptoms of cervical elongation and apical pelvic organ prolapse (POP) are similar. Therefore, it is often difficult to differentiate both entities by the clinical physical examination (CPE), considering that this association can frequently coexist, or cervical elongation can also occur in women without uterine POP.

Treatment selection is a challenge due to the variability of surgical options, with or without uterine preservation, in accordance with patient's desire. In that context, knowing the estimated uterine **cervical length (CL)** and the degree of **uterine corpus descent** (UCD) associated, is a useful information to decide the most appropriate treatment, both for conservative treatment (pessary type) or type surgery (abdominal or vaginal).

Different methods to measure the CL are described in literature, as hysterometer, intrauterine Foley catheter, transvaginal ultrasound (TVUS) and CPE. However, its reliability and correlation remain controversial. The **main objective** of the study is to compare 4 different methods to measure CL and also the degree of UCD, in women with apical symptomatic POP.

MATERIALS AND METHODS

An observational prospective study has been designed in the pelvic floor unit of a tertiary university hospital, including women with symptomatic apical POP with surgical indication.

At the initial patient evaluation, **CL** was measure by CPE, from the external cervical os to the uterosacral ligaments' insertion (internal cervical os), using a ruler. Subjective impression of UCD was also evaluated.

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A TVUS was performed to measure the CL, whereas UCD in relation to the longitudinal axis below the symphysis pubis was calculated by transperineal approach (TPUS).

In the operating room, just before surgery and under general anesthesia, CL was measured by a metallic hysterometer (from the external cervical os to the internal). Finally, a 10 Fr Foley catheter was introduced intrauterine, and the CL was measured from the inflated balloon (on the internal cervical os) to the external os (Figure 1). The Foley measurement was considered the gold standard for the measurement of CL and these 4 measurements were compared using the intraclass correlation coefficient (ICC) with 95% interval confidence. ICC values less than 0.5 are indicative of poor reliability, values between 0.5 and 0.75 indicate moderate reliability, 0.75 and 0.9 good reliability, and values greater than 0.90 indicate excellent reliability.

The clinical impression of UCD during preoperative CPE was compared with the TPUS, using Cohen Kappa index.

RESULTS

A preliminary analysis of the first 24 women included was performed, with a median age of 68,5 (51,8–76) years (interquartilic range). Considering the severity of POP measured by POPQ system, median Ba point was 2 (-1 to 3), median C point 0 (0 to 3) and median D point -5.5 (-7.3 to -4.8). The median interval between the CPE with ultrasound and the surgery was 8,4 (6,5 – 14,7) months.

ICC agreement among the 4 measurements is shown in Table 1. The ICC for CPE and Foley catheter measurements indicates good agreement.

On the other hand, the Cohen kappa index between the CPE and TPUS impression of UCD was: κ (IC 95%) = 66,7 (38,6–94,8)%; p=0,001, indicating substantial agreement.

INTERPRETATION OF RESULTS

In this pre-analysis, when we compare the CL measured by an intrauterine Foley catheter (gold standard) with the measurements performed by CPE, TVUS or metallic hysterometer, we found that the perception of CL during CPE is the most reliable method. The values obtained by TVUS had significantly lower correlation with the gold standard.

TPUS in women with symptomatic apical POP is useful assessing the UCD, complementing the subjective perception by CPE.

CONCLUSIONS

Measuring uterine CL by CPE (from the external cervical os to the uterosacral ligaments' insertion) seems to be the most preoperative reliable method, compared with the gold standard intrauterine Foley catheter during surgery. Although TVUS measurement underestimates the CL, TPUS evaluation of UCD helps in the preoperative evaluation of women with symptomatic apical POP.

Figure 1. Measurements of the cervical length by clinical physical examination (A), transvaginal ultrasound (TVUS), metallic hysterometer (C) and intrauterine Foley catheter (D).

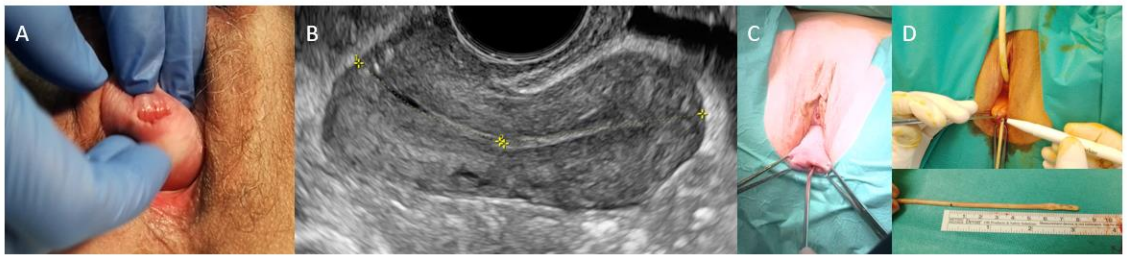

Table 1. Intraclass correlation coefficient (ICC) (95% confidence interval) agreement among the 4 measurements of the uterine cervical length: clinical physical examination (CPE), transvaginal ultrasound (TVUS), metallic hysterometer and intrauterine Foley catheter.

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	CPE	TVUS	Hysterometer	Foley catheter
CPE	---	---	---	---
TVUS	0,35 (0,00 – 0,72); 0,001	---	---	---
Hysterometer	0,72 (0,00 – 0.91); <0,001	0,59 (0,00 – 0,85); <0,001	---	---
Foley catheter	0,86 (0,67 – 0,94); <0,001	0,32 (0,00 – 0,69); 0,003	0,61 (0.00 – 0,86); <0,001	---

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25 - PREDICTIVE MODEL ESTIMATING MUSCULO-FASCIAL INJURY IN WOMEN WITH SYMPTOMATIC PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY: Pelvic organ prolapse (POP) is a frequent disorder characterized by defects in the musculo-fascial components at different levels (Level I, II, III) of the female pelvic floor.[1,2] Despite the fact that POP surgical treatment is very common, little is known about why surgery produces failure rates in the 40% range. High resolution magnetic resonance imaging (MRI) have shown that birth-induced stretch injury caused characteristic changes in anatomical structures at each pelvic floor Level but MRI accessibility is limited. Prediction of musculo-fascial defects based on available medical history, clinical examination, and imiging would be beneficial for individualization of surgical treatment.

MATERIALS AND METHODS : This retrospective cohort study included: a) parous women presenting with symptomatic POP, b) asymptomatic parous women without signs and symptoms of POP, c) asymptomatic para 0 women without signs and symptoms of POP. Volunteers underwent urogynaecological examinations and standardized 3T MRI with a high resolution (2 mm slice thickness). Evaluated parameters include age, BMI, parity, previous surgical intervention, uterine status, delivery type, POP-Q, MRI (levator ani muscle trauma, endopelvic fascial trauma, AP-diameter, urogenital angle, genital hiatus diameter at rest, Valsalva, and their difference). The last predictors were measured on MRI, however those measurements are also available on ultrasound. The musculoskeletal changes (predicted factors) were evaluated on MRI, recently the only available option for a detailed description. Combined musculo- fascial defect at level III was also used to predict upper-level changes. The analysis was performed using logistic regression statistics.

RESULTS : The study comprised 633 women, with an average age of 52 ± 16 years and BMI of 26 ± 4. The combination of selected parameters was used in predictive models to calculate ROC curves. The parameters used in models are summarized in table 1. The area under the curve was 0.88 for the prediction of Level I sacrouterine ligament defect, 0.83 to predict Level II midline defect of vesicovaginal fascia, 0.69 to predict Level II paravaginal defect, 0.75 to predict levator ani muscle defect at Level II, 0.82 to predict Level III midline fascial defect and 0.88 to predict paravaginal defect at level III. An example of ROC curves with good parameters of specificity and sensitivity are displayed in Figure 1.

INTERPRETATION OF RESULTS: The study included 633 women with an average age of 52 ± 16 years and a BMI of 26 ± 4. Predictive models were developed to estimate various pelvic floor defects, and their effectiveness was assessed using ROC curves. The highest predictive ability (AUC = 0.88) was demonstrated by models for Level I sacrouterine ligament defect and Level III paravaginal defect. Models for midline fascial defects at Level II and III also showed good predictive value (AUC = 0.83 and 0.82, respectively). The lowest predictive accuracy (AUC = 0.69) was observed for predicting a paravaginal defect at Level II. ROC curves showed that the models have good specificity and sensitivity parameters

CONCLUSIONS : Musculo-fascial defects in Levels I-III are complex and interrelated issues. The evaluation of fascial defect is limited, the predictive model creation may allow prediction of fascial defect based on available clinical and ultrasonografic parameters.

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Table 1: Summary of used parameters in models.

	Predicted	Predictors	p	OR	CI	ROC
Level I	Sacrouterine ligament defect	POP Q C	0.000	1.8	1.3-2.5	0.88
		POP Q Aa and Ba	0.000	1.6	1.4-1.8	
		POP Q stage I-II	0.002	25.6	3.3 - 197.0	
		POP Q stage III-IV	0.001	14.3	1.8 - 111.8	
Level II	Midline fascial defect anterior	POP Q stage I-II	0.000	7.7	2.6- 22.7	0.83
		POP Q stage III-IV	0.001	7.5	2.3-25.0	
		Previous intervention (one)	0.019	2.1	1.1-4.0	
		Previous intervention (two and more)	0.009	2.8	1.3-6.2	
		Age	0.000	1.0	1.0-1.0	
		POP Q Aa and Ba	0.01	1.3	1.0-1.6	
	Paravaginal fascial defect	Parity	0.018	0.27	0.1-0.6	0.69
		Level III full avulsion musculo fascial defect	0.000	10.1	4.7-21.2	
		POP Q C	0.044	1.19	1.0-1.4	
	Levator ani muscle defect	Level III full avulsion musculo fascial defect	0.000	19.4	3.3-22.7	0.75
		POP Q C	0.005	7.8	1.2-2.7	
		Delivery type	0.023	5.1	1.0-1.5	
		Urogenital angle	0.006	7.7	0.95-0.99	
		gh diameter - rest	0.028	4.8	1.0-1.1	
Level III	Midline fascial defect anterior	POP Q stage III-IV	0.033	6.2	1.2-32.9	0.82
		Age	0.000	1.0	1.0-1.1	
		POP Q Aa	0.000	0.6	0.5-0.8	
		POP Q Ap	0.019	1.2	1.0-1.5	
		Antero-posterior (AP)diameter	0.004	1.0	1.0-1.1	
		gh diameter - rest	0.003	1.0		
	Pravaginal defect	Delivery type	0.026	3.2	1.1-8.8	0.88
		gh diameter - rest	0.001	1.0	1.0-1.1	

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26 - 3D HIGH RESOLUTION ANAL MANOMETRY - BASELINE VALUES IN YOUNG ASYMPTOMATIC NULLIPARAS

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INTRODUCTION AND AIM OF THE STUDY

Anorectal functional disorders affect 10-15% of the population in developed countries, manifesting themselves mainly as fecal incontinence, anorectal pain, and defecation disorders. 3D High Resolution Anorectal Manometry (3D HRAM) is a technology initially used in the gastro-esophageal region of the gastrointestinal tract. In the anorectal area, it is used to examine functional parameters of the anorectum, rectal sensitivity and anorectal reflexes. It can be used in symptomatic patients including women before and after therapeutic intervention (i.e. rectal resection). In urogynecology, 3D HRAM may be beneficial in women with a complicated perineal injury. The evaluation of functional parameters may give additional information when concerning future pregnancies and mode of delivery. Baseline values in a homogenous population of young nulligravid women have not been published so far to our knowledge. The aim of our work was to measure, as part of a pilot study, the values of pressure ratios in the anorectal area on a unique set of young healthy and asymptomatic nulligravid nulliparous women.

MATERIALS AND METHODS

With ethical approval and informed consent medical history was collected, and examinations performed. Examinations included a clinical gynecological examination with a morphological assessment of the condition of the supporting structures of the pelvic floor and an examination using 3/4D ultrasound and 3T MRI of the pelvis. Before the actual 3D HRAM, the patients were first examined per rectum and then, in the position on the left side using the ManoScan ™ High Resolution Manometry System. In the scheme called the London protocol, recommended by the IAPWG (International Anorectal Physiology Working Group), the examination took place at rest, with repeated short-term and long-term squeezes, during coughing and then during a simulated defecation maneuver (push). Examination of rectal sensitivity was carried out by insufflation of a balloon, which is part of a solid examination catheter. Subsequent data analysis was performed using ManoView ™ AR Analysis Software.

RESULTS

The pilot study took place in the specialized multidisciplinary outpatient clinic for anorectal dysfunctions from September 2023 to August 2024. Twenty-one women agreed to the participate. The average age of the patients was 26,6 years. The average mean resting sphincter pressure was 89,7 mm Hg, the length of the high-pressure zone (HPZ) 3.8 cm. The average value of the maximum sphincter pressure during the squeeze maneuver was 208,7 mm Hg, and the duration of the long-term squeeze was 16,3 s. The rectoanal inhibitory reflex was present in all patients, and the average values determining rectal sensitivity were 44,3 ml for first sensation, 85,8 ml for urgency, and for discomfort 136,7 ml.

INTERPRETATION OF RESULTS

The values of the parameters of the anorectal function obtained in this study are in accordance with the literature. However, the published data are scarce, incomplete and in low count of volunteers. This study obtained data on largest number of healthy nulligravid women with recent manometry equipment. We attribute the higher values of the maximum sphincter pressure during the squeeze maneuver to the characteristics of our group (young nulliparous).

CONCLUSIONS

We obtained a valuable set of baseline values of anorectal pressures in young healthy nulligravid women. The high accuracy of the performed examination of the anorectal pressure ratios will enable the detection of possible difficulties

falling into the category of anorectal dyssynergia. In the future, these measured values can serve as a reference when examining symptomatic patients.

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27 - WHAT IS THE FATE OF ABSTRACTS PRESENTED AT THE EUROPEAN UROGYNECOLOGY ASSOCIATION CONGRESS AND THE JUNIOR OBSTETRICS AND GYNECOLOGY SOCIETY?

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INTRODUCTION AND AIM OF THE STUDY

Disseminating research at conferences is key to advancing evidence-based medicine, but abstracts often lack the rigor of peer-reviewed publications. Publishing these abstracts as full manuscripts validates their findings and, by extension, the conference itself. Publication rates at conferences vary, ranging between 24% and 67% (1)

The European Urogynecology Association (EUGA) Congress is a major meeting for urogynecology, while the Junior Obstetrics and Gynaecology Society (JOGS) focuses on early-career researchers.No analyses of the publication rate of either of these conferences have been undertaken in the past.

The aim of this study was therefore to determine the publication rate for abstracts presented at the EUGA and JOGS meetings in 2022.

MATERIALS AND METHODS

Abstract lists for the European Urogynecology Association Annual Congress 2022 and the Junior Obstetrics and Gynaecology Society Annual Scientific Meeting 2022 were reviewed. Data regarding abstract title, authors, and presentation type (oral or poster) were extracted.

For each abstract, PubMed was searched to determine whether the abstract was associated with a full text publication in a peer-reviewed journal. The search included all publications from January 2022 to August 2024, allowing 2 years for publication after the abstract was presented. Each abstract was screened in the following order: First, the full title of each abstract was searched. If this did not result in a match, a search by author name and keywords from the abstract title was performed. Following this, if no match could be located, the first author was searched, and the resultant list of publications was manually reviewed. A match was recorded if there were substantial similarities in study title, other authors, study design, or cohort. If the list of authors of the abstract differed significantly from the published manuscript, the publication was excluded. If no match was found following these steps, the abstract was recorded as 'not published'. Publication of the abstract itself in a journal supplement was not counted as a match. This systematic review was performed independently by two reviewers and in the event of disagreement, a third reviewer made the final decision on a particular abstract.

The journal name, impact factor, and whether the paper was made available as 'Open Access' were recorded. Chi-square tests were used to compare proportions and number of authors in each study was compared using Mann-Whitney U Test. All statistical calculations were performed using R4.4.1 (R Foundation for Statistical Computing, Vienna, Austria). As this study did not involve human subjects and utilised only publicly available information, ethical approval was neither required nor sought.

RESULTS

In 2022, 138 abstracts were presented at EUGA, and 166 abstracts were presented at JOGS. Of these, 44 were presented as oral presentations (31.9%) at EUGA while 20 were presented as oral presentations at JOGS (12.0%). In total, 64 abstracts were published as full-text manuscripts, giving an overall publication rate of 21.1% (64/304) between the two conferences. A significantly higher proportion of abstracts submitted to EUGA were published compared to JOGS (31.9% [43/138] vs 12.7% [21/166], $p < 0.001$). Data are summarised in Table 1. Oral presentations were more likely to be published than poster presentations, both overall ($p < 0.001$) and in each conference individually ($p < 0.001$). When oral presentations were compared between conferences, however, there was no statistical difference between the

publication rate in EUGA (50% [22/44]) and JOGS (40% [8/20], p = 0.636). Poster presentations in EUGA were more likely to be published than those in JOGS (22.3% [21/94] vs 8.9% [13/146], p = 0.006).

The median (IQR) number of authors on each abstract was 4 (IQR 3 – 5) overall, with abstracts in EUGA have a median of 5 authors (IQR 4 – 7) and abstracts in JOGS having a median of 3 authors (IQR 2 – 4). This difference was statistically significant (p < 0.001). There were a significantly greater number of authors on published abstracts (median 5, IQR 4 – 7) compared with those that were not published (median 4, IQR 3 – 5, p < 0.001).

Abstracts were published in 33 different peer-reviewed journals, though one-quarter (17/64) of abstracts were published in just two journals; the European Journal of Obstetrics & Gynecology and Reproductive Biology (n = 9) and the International Journal of Gynecology & Obstetrics (n = 8). The median (IQR) impact factor of the journals where abstracts were published was 2.6 (1.8 – 3.25) and there was no significant difference in impact factor between EUGA and JOGS (p = 0.847). Open access was available in exactly half of abstracts published (32/64) and there was no significant difference (p = 1.000) in this proportion between EUGA (22/43) and JOGS (10/21).

Table 1: Comparison of Publication Rates of 2022 EUGA and JOGS Conferences

	Overall		**EUGA**		**JOGS**		**P**
Number of Abstracts	304		138		166		-
Oral Presentations	21%	(64/304)	32%	(44/138)	12%	(20/166)	<0.001
Published Oral Presentations	47%	(30/64)	50%	(22/44)	40%	(8/20)	0.636
Poster Presentations	79%	(240/304)	68%	(94/138)	88%	(146/166)	<0.001
Published Poster Presentations	14%	(34/240)	22%	(21/94)	9%	(13/146)	0.006
Open Access Publications	50%	(32/64)	51%	(22/43)	48%	(10/21)	1

EUGA: *European Urogynecology Association*
JOGS: *Junior Obstetrics & Gynaecology Society*

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INTERPRETATION OF RESULTS

This study found that less than one-third of EUGA abstracts and only one in eight JOGS abstracts were published as full-text manuscripts. Oral presentations had a significantly higher likelihood of publication, but when comparing oral presentations between the two conferences, no significant differences were found in publication rates.

Published abstracts typically had more authors, possibly indicating larger or more complex studies. Unfortunately, authorship of medical research has been shown to be influenced by local culture and politics and can potentially be artificially inflated (2). This is difficult to assess and requires further research. JOGS, aimed at junior researchers, showed a similar conversion rate to larger international conferences (1), suggesting that Irish national-level research is of high quality. There was no difference in the impact factor of journals where abstracts were published, and half of the published abstracts were available as open access, reflecting ongoing challenges with accessibility (3)

The strengths of this paper are the large number of abstracts reviewed and the international, multi-conference nature of the data collection. Abstracts were reviewed in a systematic, independent manner by a team of three reviewers. Our data is limited to one relatively recent year—it is possible some abstracts will go on to be published—however, we felt two years was sufficient to allow authors to publish their work.

CONCLUSIONS

National and international conferences remain an integral part of modern evidence based medicine, though less than one-third of international conferences submissions result in publication. Oral abstracts from an Irish national junior

doctor conference compare well to international meetings. Successful abstracts tend to have more authors, though the reasons behind may be multifactorial. Dissemination of research via 'open access' is limited.

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28 - ANOTHER LINK IN THE CHAIN: DIET, DIGESTIVE HEALTH, AND PELVIC FLOOR INTEGRITY - A CROSS-CULTURAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Previous research has indicated a possible connection between constipation, dietary habits, and pelvic floor prolapse. While the specific reasons for this relationship are not well understood, this association is being actively explored globally, especially given changing dietary patterns. The objective of this study was to investigate the association between impaired bowel function (IBF) and pelvic organ prolapse (POP), and to assess the influence of diet and demographic characteristics on the severity of prolapse.

MATERIALS AND METHODS

This cross-sectional, international, multi-center study was conducted among patients undergoing pelvic floor repair in Ireland and Israel. Adherence to the Mediterranean diet and the presence of IBF were assessed using validated questionnaires (The Mediterranean Diet Adherence Questionnaire and the Patient Assessment of Constipation Symptoms, respectively). General demographic information, clinical details, and intraoperative data were extracted from the electronic medical records in each hospital. Univariate analysis was followed by a multivariate one, and correlations were assessed using Spearman's rho coefficient.

RESULTS

Among the 204 patients enrolled, 105 (51.5%) were categorized into the IBF group, and 99 (48.5%) into the normal bowel function (NBF) group. There was no difference in age, parity, body mass index, and rate of obesity between the groups. Patients in the IBF group were more often nullipara (1% vs. 8.1%, p=0.01) and exhibited significantly lower rates of adherence to the Mediterranean diet compared to the NBF group (22.0% vs. 70.5%, p=0.01). Cystocele, cul-de-sac (enterocele), and genital hiatus prolapse were more prevalent in the IBF group. The distribution of surgical repair procedures was similar between the two groups. Multivariate logistic regression analysis revealed a significant association between surgical repair involving the anterior wall and low adherence to the Mediterranean diet.

INTERPRETATION OF RESULTS

The study indicates that IBF is associated with specific patterns of vaginal wall prolapse, particularly cystocele and enterocele. Lower adherence to the Mediterranean diet is significantly associated with repairs involving the anterior wall. These findings emphasize the role of dietary habits in the occurrence and management of pelvic floor disorders.

CONCLUSIONS

This study indicates an association between impaired bowel function, diet, and specific patterns of vaginal wall prolapse, such as cystocele and enterocele. However, it does not establish causation. Further research should focus on prevention strategies, particularly the role of dietary modifications in managing and preventing pelvic floor disorders.

ASSOCIATION BETWEEN IMPAIRED BOWEL FUNCTION AND STAGE OF PROLAPSE AMONG THE DIFFERENT COMPARTMENTS

Variable	Impaired bowel function n=105	Normal bowel function n=99	P value
Urethrocele, Median, IQR	1 (1-1)	1 (1-1)	0.40
Cystocele, Median, IQR	3 (2-3)	2 (2-3)	<0.01
Uterus, Median, IQR	2 (1-3)	2 (1-3)	0.66
Cul de sac, Median, IQR	1 (1-2)	1 (1-1)	<0.01
Rectocele, Median, IQR	1 (1-2)	1 (1-2)	0.47
Genital hiatus, Median, IQR	1 (1-1)	1 (1-1)	0.02

IQR – interquartile range

Prolapse staging: Modified POP-Q, International Urogynecological Association (IUGA) / International Continence Society (ICS) Joint Report on the Terminology for pelvic organ prolapse (POP).

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29 - UTERINE BODY PRESERVATION DURING SACROCOLPOPEXY AND SEXUALITY

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INTRODUCTION AND AIM OF THE STUDY

Sexual dysfunction is a prevalent condition among women with pelvic organ prolapse (POP). Sacrocolpopexy (SCP) is regarded as a gold standard procedure for managing apical defects, with a markedly beneficial effect on women's sexual well-being[1]. However, only a limited number of studies have examined the impact of concomitant hysterectomy on sexual function (SF). Since total hysterectomy is associated with an increased risk of mesh exposure, the most important clinical question is the impact of concomitant supracervical hysterectomy on sexual function. We set out to compare laparoscopic sacrocolpopexy with concomitant supracervical hysterectomy with sacrohysteropexy in terms of sexual function at one-year follow-up.

MATERIALS AND METHODS

This is a secondary analysis of prospectively collected data from a prospective observational single-center study comparing sexual function in women after laparoscopic sacrocolpopexy in one year.[1] The study was conducted at a tertiary urogynecology center between February 2015 and December 2019. Women with POP stage ≥ 2 undergoing laparoscopic sacropexy, were enrolled in the study. Women who completed the Pelvic Organ Prolapse/Incontinence Sexual Questionnaire, IUGA Revised (PISQ-IR) questionnaire before and one year following the surgical procedure were included in the study. In this secondary analysis, women undergoing SCP (after a previous hysterectomy) or concomitant total laparoscopic hysterectomy were excluded. Only sexually active women undergoing laparoscopic sacrocervicopexy with concomitant supracervical hysterectomy (LSCH) or women undergoing laparoscopic hysteropexy (LHS) were included in the study. The overall sexual quality of life was assessed by a single summary PISQ-IR score and PISQ-12 score. In addition, all individual domains of the PISQ-IR questionnaire were compared separately. The statistical analyses were conducted using a series of tests, including paired signed rank, Wilcoxon, median, chi-squared, and Fisher tests. A p-value of less than 0.05 was considered statistically significant.

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RESULTS

A total of 205 women completed both PISQ-IR questionnaires over a one-year period. One hundred forty-three had undergone LSCH (42,9 %), while 62 (18,6 %) had undergone LSH respectively. Among the LSCH group, 55 women (38.5 %) remained sexually active one year following surgery. In contrast, up to 36 women (65.5 %) of the LSH group continued in sexual activity. There were no notable differences between the two groups regarding previous abdominal, gynecological, and POP surgeries, cardiovascular disease, asthma, and diabetes status. However, the age of the subjects (LSCH 54.27 vs LSH 46.89; $p< 0.007$), parity (LSCH 2.13 vs LSH 1.88; $p< 0,023$), genital hiatus diameter (GH) prior (LSCH 4,84 vs LSH 5,33; $p< 0,0171$), and GH one year after surgery (LSCH 4,11 vs LSH 4.29; $p< 0,0108$) had reached statistical difference. The only statistically significant difference observed regarding SF was in the SA-AO domain of the PISQ-IR questionnaire, representing arousal and orgasm (LSCH 66.2 vs LSH 72.74; $p < 0.0436$) resulting in an overall difference in single summary PISQ-IR score (LSCH 3.51 vs LSH 3.68; $p < 0.0104$), with the LSH group exhibiting superior outcomes. The total PISQ-12 score was also significantly higher for the LSH group (LSCH 37.28 vs. LSH 39.35; $p < 0.0204$). The summary PISQ-IR score reached the minimal clinically important difference for both groups (LSCH Δ= 0,5; LSH Δ= 0,72) one year after the procedure[2].

INTERPRETATION OF RESULTS

To our knowledge, this is the first study to compare sexual functions between laparoscopic sacrocervicopexy and hysteropexy after one year using two questionnaires. Both groups of sexually active women experienced statistically and clinically significant improvements in SF one year after surgery. These findings are consistent with previous studies examining SF following abdominal sacrocolpopexy and hysteropexy[3]. Comparing both groups, there was a substantial improvement in the overall PISQ-IR and PISQ-12 in women who underwent laparoscopic hysteropexy compared to the LSCH group. In the individual domains, only the SA-AO domain showed a statistically significant difference in favor of the LSH group. An important finding is that nearly twice as many patients in the LHS group remained sexually active

compared to the LSCH group. However, the impact of age and parity among patients in each group may have contributed to the overall outcome.

CONCLUSIONS

Both laparoscopic sacrocervicopexy and hysteropexy are suitable methods of choice for sexually active women, with positive impacts on women's sexual functions. Women undergoing laparoscopic hysteropexy were more likely to remain sexually active and achieved superior sexual function scores owing to arousal and orgasm domain.

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30 - THE ASSOCIATION BETWEEN A HISTORY OF CHILDHOOD SEXUAL ABUSE, CHILDBIRTH-INDUCED ACUTE STRESS AND POSTPARTUM PELVIC FLOOR SYMPTOMS: A LONGITUDINAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Childbirth may challenge women physiologically and psychologically. Up to 30% of women experience postpartum pelvic floor dysfunction (PFD) (1). Childbirth exposes women to depression and childbirth-induced post-traumatic stress disorder (PTSD) (2). Studies have shown that sexual abuse (SA) survivors, who present with a high incidence of PFD, are also at increased risk for traumatic childbirth experiences (3). Although research has shown an association of PFD with postpartum depression, the role of childbirth-induced PTSD and past SA has yet to be explored. The objective of this study was to evaluate the association between CSA and postpartum PFD, and the mediating role of childbirth-induced acute stress disorder (ASD).

MATERIALS AND METHODS

During April 2018- August 2020, 440 women were recruited in the maternity ward within 48 hours postpartum (T1). Following IRB approval and informed consent, participants completed self-report questionnaires. Obstetrical data were collected from medical files. A link to self-report questionnaires was emailed to participants three months postpartum (T2). Pelvic Floor Distress Inventory 20 (PFDI-20) was assessed at T2. Birth-induced acute stress disorder (ASD) symptoms were assessed at T1 by the Stanford Acute Stress Reaction Questionnaire (SASRQ). The statistical software package SPSS 29 and PROCESS supplement were used to analyze the data. To assess the mediating role of birth-induced ASD in the relationship between CSA and PFDI-20 subscales, we used a bootstrapping method with 1,000 bootstrap resamples in PROCESS (model 4). To examine the moderated mediation hypothesis, we used Hayes' conditional indirect effect methodology. This conditional process model examines whether the indirect effects of CSA on each PFDI-20 subscale through level of ASD is conditional on parity.

RESULTS

Four-hundred and forty women were recruited at T1. Two-hundred ninety-five women (67.05%) filled out the questionnaires at T2; 279 women who filled up the PFDI-20 were included in analyses. In all mediation models, controlling for BMI, mode of delivery and birthweight, CSA was positively associated with ASD. The first model, indicated that both CSA and ASD were associated with pelvic organ prolapse distress inventory (POPDI) scores. Accelerated corrected-bias bootstrap tests showed that ASD mediates the relation between CSA severity and POPDI. Further analysis indicated a significant interaction between parity and ASD in predicting POPDI scores ($p = .013$.): Among primipara, the higher the levels of ASD, the higher the POPDI scores ($p <.001$); among multipara, ASD is not related to POPDI ($p =.33$; fig. 1a). The second model indicated that ASD is associated with urinary distress inventory (UDI) scores. Accelerated corrected-bias bootstrap tests showed ASD mediates between severity of CSA and UDI scores. The interaction between parity and ASD in predicting UDI was not significant ($b=-5.54$, $SE=3.57$, $t = -1.55$, $p = .12$.): ASD is significantly associated with UDI among both primipara ($p <.001$) and multipara ($p = .03$; figure 1b). Thus, the indirect effect of CSA on the UDI score through the mediation of ASD is significant among both primipara ($b=.35$, $SE = .24$, 95% BCI .06, .1.08) and multipara ($b=.17$, $SE = .10$, 95% BCI .04, .47). The third model indicated that ASD was associated with colorectal-anal distress inventory (CRADI) scores. Accelerated corrected-bias bootstrap tests showed that ASD mediates the relation between CSA severity and CRADI. Further analysis indicated a significant interaction between parity and ASD in predicting CRADI ($b=-6.77$, $SE=3.25$, $t = -2.08$, $p = .04$). Among primipara, the higher the levels of ASD, the higher CRADI scores ($p <.001$), while among the multipara, ASD is not related to CRADI ($p =.11$; figure 1c). A moderated mediation analysis indicated that the indirect effect of CSA on CRADI scores through the mediation of ASD is significant among primipara ($b=.33$, $SE = .21$, 95% BCI .05, .87) but not among multipara ($b=.10$, $SE = .10$, 95% BCI -.01, .32).

INTERPRETATION OF RESULTS

In this longitudinal study, we have shown that CSA is associated to worse post-partum PFD scores, with birth-induced ASD as a mediator of this relationship. This association was shown to be unrelated to parity for the urinary domain, while for POPDI and CRADI scores this relationship involved only primipara. The association between CSA and PFD is well-established, however the exact mechanism is unknown. In our study, we showed that birth-induced ASD may have a role in this association in post-partum women, through reactivation of traumatic memories causing somatization and PFD.

CONCLUSIONS

Obstetricians should be cognizant of the association between birth-induced ASD and increased postpartum PFD, especially in CSA survivors. Prevention and early detection of ASD may prevent pelvic floor morbidity.

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Figure 1a

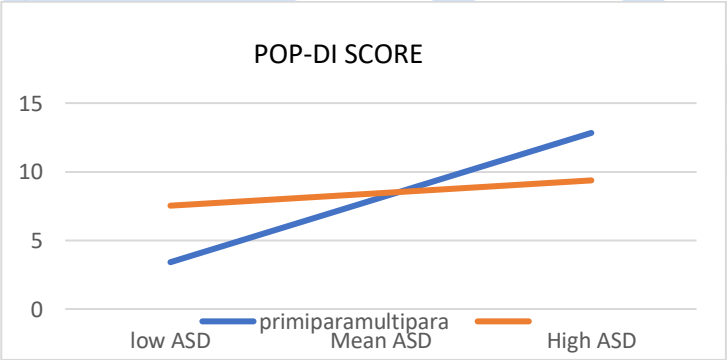


Figure 1b

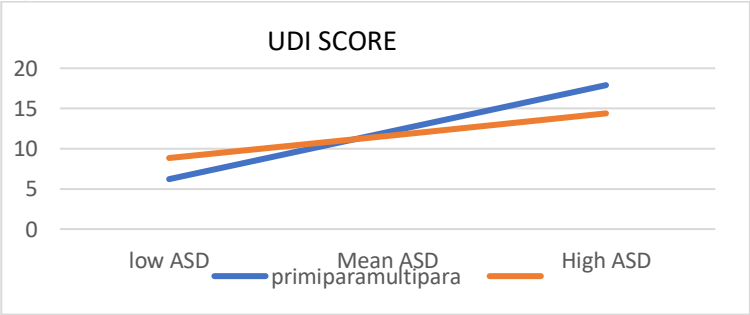
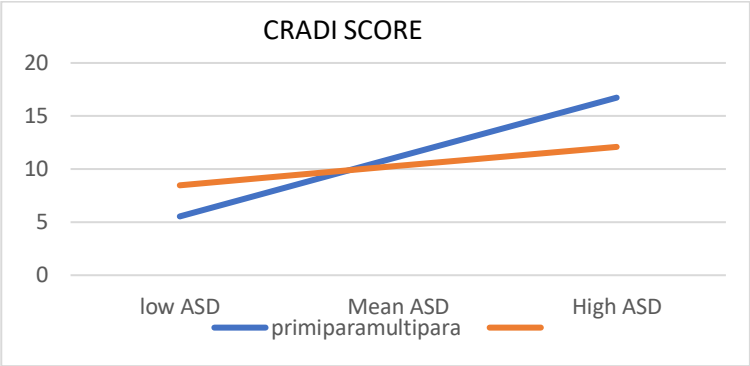


Figure 1c



Note: low ASD = -1 SD below the mean, High AS = 1 SD above the mean

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31 - RELATIONSHIP BETWEEN THE SEVERITY AND IMPACT OF VAGINAL CAPACITY AND VAGINAL SYMPTOMS, PELVIC FLOOR CONDITIONS, AND QUALITY OF LIFE OF DIFFERENT AGES ATTENDING UROGYNAECOLOGY CLINICS

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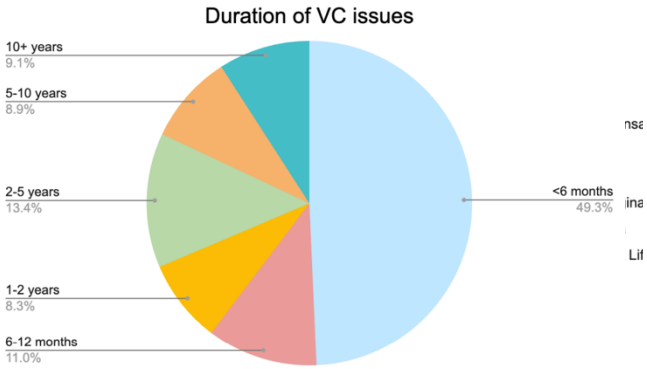
INTRODUCTION AND AIM OF THE STUDY

This study aims to investigate the prevalence, severity and impact of vaginal capacity (VC) issues among women of different ages attending urogynaecology clinics. It seeks to determine the relationship between VC and vaginal symptoms, pelvic floor conditions, and quality of life (QoL). The study also aims to conduct a thematic analysis of free text data to identify the concerns and goals of women with VC issues. VC refers to the vaginal length and tightness. The aetiology of VC-related problems can be due to many contributing factors. Vaginal tightness may be caused due to vulvovaginal atrophy or genitourinary syndrome of menopause (GSM).[1] There are a limited number of epidemiological studies relating to VC. This may be because of the vast differences in VC symptoms among women and a lack of validated measures of VC. However, there has been evidence of the effect of increasing age on vaginal length and tightness. Within the literature, a consensus supports the view that VC issues become more severe after menopause. Mean vaginal length is significantly shorter in postmenopausal women than in premenopausal women.[2] Furthermore, the occurrence of pelvic floor dysfunction may increase during the ageing process in women. Women with a high symptom prevalence related to pelvic floor dysfunction reported increased pain during sex, also known as dyspareunia.[3] VC symptoms are often reported within clinics, however, there is limited research on its prevalence and the effects on women's QoL. This study addresses this gap using a validated electronic Personal Assessment Questionnaire evaluating Pelvic Floor conditions (ePAQ-PF). The vaginal dimension of the questionnaire includes a domain addressing symptoms relating to VC.

MATERIALS AND METHODS

Before attending the urogynaecology clinic, women completed the ePAQ-PF questionnaire as part of their initial assessment. The study included responses from 16,734 patients, focusing on VC issues. Responses were analysed to evaluate symptom severity and impact. Patients with incorrect data or who did not consent were excluded. Those with VC issues answered three items: “Do you feel that the entrance to your vagina is too tight or too narrow?”, “Do you feel that the inside of your vagina is too tight or too narrow?” and “Do you feel that the inside of your vagina is too short in its length?”. The answers were stratified into four groups: unaffected ‘not a problem’, mild ‘a bit of a problem’, moderate ‘quite a problem’, and severe ‘a serious concern’. The impact score was derived using the response to the sub-question after each item ‘How much of a problem is this for you?’. The maximum score across the sub-questions was the impact score. Participants were categorised by age, and the relationship between age and the severity and impact of vaginal capacity (VC) issues was analysed using Spearman’s rank correlation. This method allowed the study to evaluate the connection between VC and other related domains, such as pain, sensation, pelvic organ prolapse (POP), and QoL. The duration of VC issues and the time to clinic presentation were analysed. Surgical outcomes on VC issues were evaluated by comparing pre- and post-operative scores using paired t-tests. Thematic analysis of free-text responses provided deeper insights into the specific concerns and goals of women experiencing VC issues. Subgroup analysis was conducted to explore the interaction between urinary, bowel, and sexual problems with VC, enhancing understanding of how these factors influenced vaginal and sexual health domains.

RESULTS



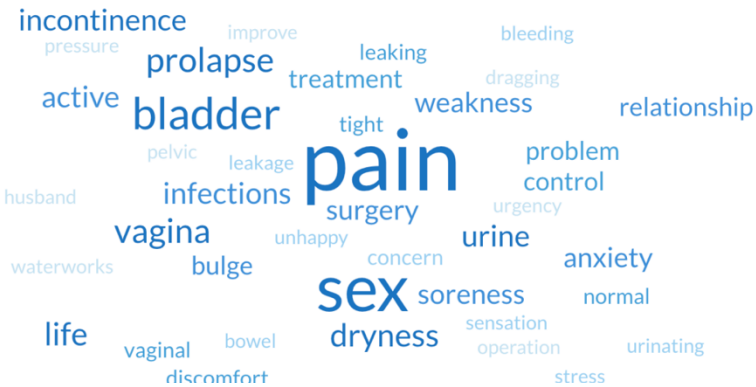


Figure I: Comparison of the mean domain scores in each

Figure II: Comparison of the mean impact scores in each

Figure III: A pie chart showing the duration of VC issues.

Figure IV: A word cloud demonstrating the most prevalent issues mentioned by women in free text.

INTERPRETATION OF RESULTS

21.9% of respondents reported VC issues. The study analysed seven domain factors, including Vaginal Capacity (VC), Pain and Sensation, Pelvic Organ Prolapse (POP), Quality of Life (QoL), Sex and Vagina, Dyspareunia, and General Sex Life, across various age groups. VC and Dyspareunia scores peaked in the 61-70 age group, while VC and General Sex Life scores declined in older age groups, with the lowest scores in the 81+ age group. Conversely, QoL and Sex and Vagina scores were highest in the 81+ group. Spearman Rank Analysis showed moderate positive correlations between VC and Pain and Sensation, Sex and Vagina, and Dyspareunia. The highest mean impact scores were observed in the 18-20 age group for VC, with Dyspareunia consistently showing the highest impact across all age groups. POP impact scores increased with age, peaking in the 31-50 age range. Nearly half of women sought clinical care within six months of experiencing VC issues, while 9.1% waited over 10 years. A word cloud from 5,529 free-text responses highlighted "pain," "bladder," "sex," and "prolapse" as the most frequently mentioned concerns.

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CONCLUSIONS

This is the first study of its kind to report the prevalence of VC using a validated instrument in a large cohort of women attending urogynaecology clinics. Our findings highlight the significant prevalence of VC symptoms across all age groups, with more than one in five women reporting these issues. VC is reported the highest by younger women. Within the older age group, symptom severity and bother peaked within the postmenopausal group and therefore the null hypothesis can be accepted. Our findings also highlight the association between VC, dyspareunia, and diminished QoL. The high level of bother associated with these symptoms also highlights the impact of VC on QoL. This study evaluated self-reported goals and concerns. This study demonstrates that younger and middle-aged women with VC issues report a desire to improve QoL and sexual function, whereas older women prioritise symptom management of VC. The findings will inform further prospective observational and interventional research into VC in women.

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32 - THE EFFECT OF ENHANCING PELVIC FLOOR MUSCLE TRAINING AWARENESS ON URINARY INCONTINENCE SYMPTOMS AMONG PARTURIENT WOMEN: A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) exerts a detrimental impact on women`s quality of life. Pregnancy and delivery are recognized as substantial risk factors for this condition, and it is estimated that up to one third of postpartum women are affected. Pelvic floor muscle training (PFMT) is widely recommended as a primary intervention for UI and is also beneficial for preventing prolapse, improving sexual function, addressing anal incontinence, and enhancing delivery outcomes. There is a growing global momentum in raising awareness about pelvic floor problems through social media and awareness campaigns. However, it is currently unclear whether raising awareness to PFMT among parturient women results in increased compliance and adherence to this therapeutic modality and whether it affects UI in these women.

The aim of the study is to investigate the effect of targeted awareness-raising intervention on performing PFMT and on UI symptoms among parturient women.

MATERIALS AND METHODS

A randomized controlled trial was conducted from January to May 2023 at a university-affiliated hospital. Postpartum women were randomly assigned to either receive usual care (control group) or participate in a structured intervention consisting of monthly video tutorials on PFMT and provision of a dedicated awareness magnet (intervention group). Symptoms and demographic variables were recorded at recruitment, 6 weeks, and 6 months postpartum, using UDI-6 and IIQ-7 questionnaires and a structured Awareness Questionnaire (AQ) (Table 1) to assess awareness levels and internal and external factors influencing their decision to perform PFMT. Given a confidence level of 95% and a power of 80%, with an assumed effect size of 0.5, each group required a sample size of 64 women. To mitigate potential loss to follow-up, methods such as Simple-Mean-Imputation and Last Observation Carried Forward (LOCF) Imputation were employed.

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RESULTS

At baseline 195 participants were available for analysis. Clinical and demographic data are presented in Table 2. The UDI-6 and IIQ-7 scores improved with time among both groups. Although the changes in both UDI-6 and IIQ-7 scores from the baseline were more prominent in the intervention group, these differences reached statistical significance only for the 6 weeks postpartum IIQ-7 score (Table 3).

Items in the awareness questionnaire related to considering PFMT post-delivery, motivation due to the magnet, and increased PFMT adherence correlated significantly with UDI-6 and IIQ-7 scores ($p=0.018$, $p=0.0017$, and $p=0.022$, respectively), while other items did not show statistical significance.

INTERPRETATION OF RESULTS

The findings suggest that targeted awareness-raising interventions for PFMT postpartum are associated with improved UI symptoms and quality of life, indicating a potential benefit in integrating educational efforts and supportive tools to enhance postpartum care.

CONCLUSIONS

Postpartum awareness raising intervention for PFMT seem to correlate, (at least in part) with improved UI symptoms and quality of life. To enhance awareness and elevate the quality of life for women after childbirth, it is advisable to incorporate thorough education as well as provision of auxiliary tools. Further clinical trials are needed in order to support this conclusion.

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TABLE 1: Awareness questionnaire

	Likert scale: 1 = I totally agree with the statement, 5 = I totally disagree *Pelvic floor muscle training (PFMT)
1	How aware are you of problems related to the pelvic floor?
2	While being pregnant, I have considered practicing PFMT.
3	After delivery I have considered practicing PFMT.
4	A reminder, in a form of a dedicated magnet, encouraged me to perform PFMT.
5	While being pregnant, my obstetrician has raised the possibility of performing PFMT.
6	After delivery, my obstetrician has raised the possibility of performing PFMT.
7	Having a reminder (demonstration videos and text messages) have encouraged me to perform PFMT.
8	Having a brochure with explanation of how to perform PFMT, have encouraged me to perform PFMT.
9	Have you performed PFMT exercises in the last three months? Yes/no
	For those who answered YES: ▪ How many times per day have you practiced? ▪ How much minutes each time have you practiced? ▪ How many days per week have you practiced? ▪ For those who answered NO: ▪ What was the reason? (You can mark more than one option)
	For those who answered NO: What was the reason? (You can mark more than one option) ▪ The demonstration videos were unclear ▪ The brochure was not clear ▪ Lack of time ▪ I don't think there is any benefit in doing exercises ▪ Lack of support from the immediate environment ▪ I'm too busy ▪ Physiotherapy appointments were not available ▪ The costs of private physiotherapy were too high

TABLE 2: Demographics, obstetrics and medical background

Category	Control group N=99	Intervention group N=96	P value
Age	32.3 ±3.6	31.5±3.7	NS
BMI pre pregnancy	23.1±3.6	23.2±3.6	NS
BMI pre delivery	28.2±3.8	27.3±2.9	NS
Gravity	2 (1-6)	2 (1-5)	NS
Parity	2 (1-5)	2 (1-4)	NS
Birth weights	3197±467.98	3256±460.16	NS
Cesarean section	6.1%	7.3%	NS
Instrumental delivery	10.1%	12.5%	NS
Episiotomy	35.4%	34.4%	NS
Smoker	9.1%	6.3%	NS
Diabetes mellitus	10.1%	11.5%	NS
An academic	82.8%	88.5%	NS

Table 3: UDI-6 and IIQ-7 Scores - Changes from Baseline

Time from baseline	Intervention Group	Control Group	P
UDI-6			
6 weeks	-6.24	-3.19	0.19
6 months	-8.54	-2.76	NS
IIQ-7			
6 weeks	-8.21	-3.4	0.02
6 months	-5.4	-2.5	NS

33 - THE EVIL TWINS OF CHRONIC PELVIC PAIN SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS ON INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME AND ENDOMETRIOSIS

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Fondazione IRCCS San Gerardo dei Tintori, University of Milano-Bicocca, Monza, Italy [(1)]

INTRODUCTION AND AIM OF THE STUDY

Chronic pelvic pain (CPP) is a debilitating condition affecting quality of life. Endometriosis is one of the leading causes of CPP, but recent studies highlighted the role of interstitial cystitis/bladder pain syndrome (IC/PBS) in causing CPP. Only some studies addressed the coexistence between these two conditions, which seems more frequent than what is supposed, leading to diagnostic delays and unnecessary surgeries. This systematic review aimed to evaluate the estimate of the coexistence of endometriosis and IC/PBS.

MATERIALS AND METHODS

We performed a systematic search of literature indexed on PubMed, Scopus, ISI Web of Science, Cochrane (from the start to 04th of March 2024—start date of search), using EndNote x8 (Clarivate Analytics). We used a combination of keywords and text words represented by “painful bladder syndrome” AND “endometriosis”, “interstitial cystitis” AND “endometriosis”, “bladder pain syndrome” AND “endometriosis”. Four reviewers independently screened titles and abstracts of the records that were retrieved through the database searches. The electronic database search provided a total of 2136 results. After the review process, 14 studies met the inclusion criteria and were incorporated into the review process. The papers included mostly retrospective and prospective studies and 1 cohort study; they were all published after 2002 with the most recent in 2016. Figure 1 shows the PRISMA flow-chart of systematic review. After

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including only studies with a laparoscopic biopsy-proven endometriosis or cystoscopy, we made a meta-analysis of results. Figure 2 shows the studies we included. The study protocol was registered in PROSPERO (CRD42024536875).

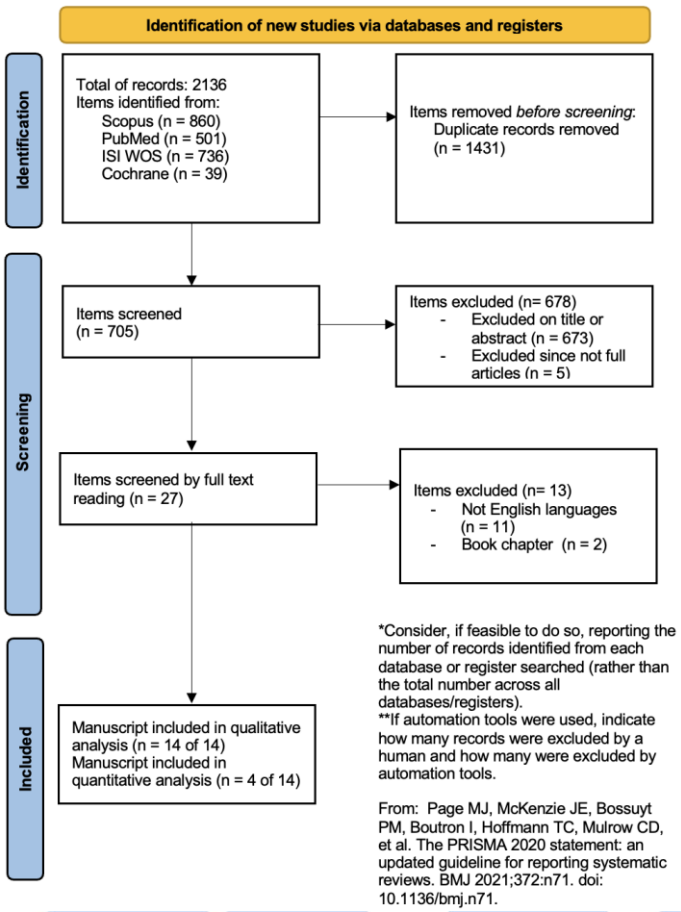

Figure 1 Search strategy according to PRISMA 2020

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RESULTS

In the studies included in this review, the high coexistence between endometriosis and IC/PBS in women with CPP was highlighted. The prevalence of endometriosis in women with IC/PBS was estimated to be around 20%, according to the studies included. Endometriosis is more frequent in IC/PBS patients than controls when there are also other systemic pain disorders, such as fibromyalgia, vulvodynia and migraine. The prevalence of IC/PBS in women with endometriosis was higher than controls (hazard ratio 3,74). In women under 21 years old, the estimated prevalence was 16%. High prevalence was also found in women with stage I or stage II endometriosis (according to the American Fertility Society Classification). Meta-analysis shows that in women with CPP, IC/PBS is higher in patients with endometriosis than controls (women without endometriosis) (Figure 2); and this percentage ranges between 15,5-78,3%.

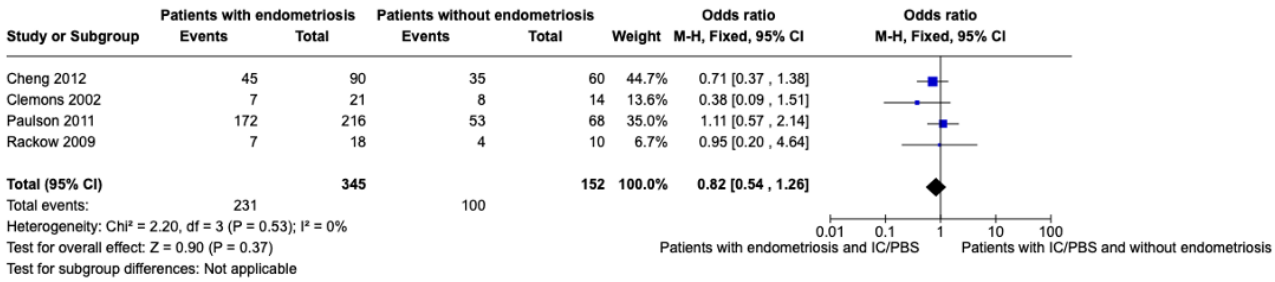

Figure 2. Meta-analysis of included studies (events means the presence of IC/PBS)

INTERPRETATION OF RESULTS

Our systematic review highlighted that the coexistence of endometriosis and interstitial cystitis/painful bladder syndrome (IC/PBS) in women with chronic pelvic pain (CPP), often referred to as the 'Evil Twins Syndrome,' is underestimated, illustrating the complex diagnostic challenges these conditions pose. Despite endometriosis being traditionally recognized as a leading cause of CPP, recent insights reveal that many women with endometriosis do not experience pain, and the presence of IC/PBS can significantly complicate their clinical picture. The syndrome is characterized by a high prevalence of co-occurrence, varying widely across studies from 15.5% to 78.3%, reflecting the need for heightened diagnostic suspicion and a multidisciplinary treatment approach. Furthermore, the management of these patients often involves frequent, sometimes ineffective, pelvic surgeries and could benefit significantly from a combination of hormonal therapies and targeted treatments for IC/PBS symptoms. The difficulties in diagnosing and treating CPP are exacerbated by the overlapping symptoms of endometriosis and IC/PBS, leading to significant patient distress and multiple, often unsuccessful, surgical interventions. An integrated diagnostic approach and validated screening tools are essential to identify and effectively treat both conditions accurately. The main limitation of this study is the need for more solid data about the prevalence of endometriosis and IC/PBS taken alone, as well as the different diagnostic criteria used across studies for the diagnosis of both endometriosis and IC/PBS.

CONCLUSIONS

Women with CPP need a multidisciplinary approach and a referral to centres with specific expertise. In cases of endometriosis unresponsive to treatment, other reasons for CPP need to be ruled out, above all in women not responsive to treatment.

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34 - FEMALE SEXUAL FUNCTION CHANGE DURING FIRST PREGNANCY: PRELIMINARY REPORT OF A COHORT STUDY

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INTRODUCTION AND AIM OF THE STUDY

Sexual life during pregnancy is a complicated field requiring a comprehensive approach to understand, due to its multifactorial structure. Hence the impact of pregnancy on sexuality is an open area to examine from a broad perspective and needs an indepth insight to disentangle the factors that may affect sexual function in primigravids(1).
This is a preliminary report of a cohort study aimed to evaluate the change of sexual function, body image and genital self-image satisfaction through three trimesters of the primigravid women and to reveal the impact of body image and genital self-image satisfaction on female sexual function change during the first pregnancy.

MATERIALS AND METHODS

This is the report of the data of 272 primigravid pregnant women who were evaluated in all trimesters, after drop-outs due to obstetric and other reasons. All the participants signed a written informed consent for this study which was approved by the Institutional Review Board (i5-312-21). The primigravids were recruited from an antenatal outpatient clinic of a university school of medicine, obstetrics and gynecology department, between April 2021 and August 2022. The demographic characteristics and the scores of validated questionnaires; Female Sexual Function Index (FSFI), Body-Cathexis Scale (BCS) and the Female Genital Self-Image Scale (FGSIS) were recorded and analysed. The questionnaires were completed in all, for the three trimesters. Repeated Measures ANOVA test was used to look at the differences between repeated measurements. The statistical significance was taken as $p<0.05$. Lineer Regression analysis was used to evaluate the relationship between sexual function and body mass index (BMI), body image and genital self image satisfaction (SPSS11.5).

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RESULT

272 pregnant women were followed up for all three trimesters and the questionnaires were administered three times, between 9-14(mean 12) week gestation for the first trimester, between 20.-28 (mean 24) week gestation for the second and 30-36(mean 34) week gestation for the third trimester. All were singletons except one twin pregnancy. The mean age of primigravid pregnant women was found to be 25.20 ± 4.04(19-38). Body mass index was measured as 25.28 ± 2,61 in the 1st trimester, 27.91 ± 2,86 in the 2nd trimester, and 31.42 ± 3,14 in the 3rd trimester($p<0,001$, $p<0,001$, $p<0,001$). FSFI total and all subscales' (Desire, Arousal, Lubrication, Orgasm, Satisfaction, Pain) scores decreased in all trimesters of pregnancy ($p<0.001$). The body image satisfaction was observed to increased in the 2nd trimester and decreased again in the 3rd trimester but the differences throughout the three trimesters were not found to be significant ($p=0.095$). For the FGSIS scale, the highest mean was found in the1st trimester, while the lowest mean was obtained in the 3rd trimester without a significant difference between the three trimester($p=0.458$)(Table 1). Body mass index was observed to have an effect on sexual function only in the 1st trimester(R^2:0,025, $p=0.009$). In all three trimesters, body image satisfaction was found to have an effect on sexual function(R^2:0,076, $p<0.001$; R^2:0,029, $p=0.005$; R^2:0,027, $p=0.006$ respectively). However no significant association of genital self-image on sexual function was found throughout three trimesters($p>0.05$) (Table 2).

INTERPRETATION OF RESULTS

In this study, a substantial deterioration of the female sexual function(FSF) with a significant impairment in its all domains was observed in primigravid women. In 1999, Sydow et al. published a meta-analysis of 59 studies, examining sexual function in pregnancy and in postpartum period. According to this review, women's sexual interest and

intercourse activity slightly decreases in the 1st trimester of pregnancy, variable in the 2nd trimester, and sharply declines in the 3rd trimester (2). In another study examining 107 pregnant women prospectively in the 1st and 3rd trimesters and the 6 month postpartum, the findings suggest that sexual function decline during pregnancy to a level suggestive of sexual dysfunction, without any improvement until 6 months postpartum. They also did not observe any change in body image during pregnancy likewise our findings. However they used a different assessment tool (Body Exposure during Sexual Activities Questionnaire) and reported an association with impaired body image and low sexual function, only in early pregnancy(3). In our study, we used the BCS and similarly did not observe a significant change in body image scores during pregnancy bu found that sexual function change was associated with body image satisfaction in all trimesters. Additionally no association of female genital self image satisfaction.
Studies examining the change in genital self-image in women are quite limited. As far as we know this is the first study to evaluate genital self-image in primigravid pregnant women prospectively in all three trimesters. Hence more studies are needed to better understand the factors that are associated with FSF during pregnancy.

CONCLUSIONS

Female sexual function as a whole and with its' all comprising domains including desire, arousal, lubrication, orgasm, satisfaction and pain, deteroriates throughout the first pregnancy of women. Apart from body image satisfaction, body mass index and genital self image satisfaction seem to have no impact on this impairment in primigravids.

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Table 1. Changes in BMI and BCS, FGSIS, FSF Total and Subscales' Scores During First Pregnancy

	T1	T2	T3	P^{1-2}	P^{2-3}	p^{1-3}
	Mean±SD	Mean±SD	Mean±SD			
FSFI	22,56±9,08	20,03±9,15	14,34±9,47	**<0,001**	**<0,001**	**<0,001**
Desire	3,81±1,10	3,34±1,06	2,68±1,00	**<0,001**	**<0,001**	**<0,001**
Arousal	3,37±1,64	3,02±1,66	2,19±1,69	**<0,001**	**<0,001**	**<0,001**
Lubrication	3,70±1,70	3,38±1,76	2,57±1,93	**<0,001**	**<0,001**	**<0,001**
Orgasm	3,70±1,79	3,36±1,82	2,37±1,86	**<0,001**	**<0,001**	**<0,001**
Satisfaction	4,15±1,98	3,73±2,02	2,47±1,97	**<0,001**	**<0,001**	**<0,001**
Pain	3,84±1,95	3,21±1,88	2,07±1,74	**<0,001**	**<0,001**	**<0,001**
BCS	151,56±24,69	153,88±23,23	152,45±25,04	0,091	0,087	0,095
BMI	25.28 ± 2,61	27.91 ± 2,86	31.42 ± 3,14	**<0,001**	**<0,001**	**<0,001**
FGSIS	20,09±3,47	19,97±3,44	19,66±3,65	0,493	0,362	0,458

BMI: Body Mass Index, FSFI: Female Sexual Function Index, BCS: Body-Cathexis Scale, FGSIS: Female Genital Self-Image Scale.

SD: Standart Deviation, p^{1-2}: Significance between the 1st and 2nd trimesters, p^{2-3}: Significance between the 2nd and 3rd trimesters, p^{1-3}: Significance between the 1st and 3rd trimesters, statistical significance $p < 0.05$, significance values have been adjusted by the Repeated Measures ANOVA tests.

Table 2. Effect of FGSIS, BCS and BMI on the FSFI Total Scores During First Pregnancy

Trimesters		β	SE	p value	R^2	%95 CI for β	
						min	max
T1	**FGSIS**	0,209	0,161	0,195	0,006	-0,108	0,525
	BCS	0,101	0,022	**<0,001**	0,076	0,059	0,144
	BMI	-0,555	0,209	**0,009**	0,025	-0,967	-0,143
T2	**FGSIS**	0,289	0,160	0,072	0,012	-0,026	0,604
	BCS	0,067	0,024	**0,005**	0,029	0,021	0,114
	BMI	-0,305	0,194	0,117	0,009	-0,686	0,077
T3	**FGSIS**	0,318	0,162	0,052	0,014	-0,002	0,638
	BCS	0,062	0,023	**0,006**	0,027	0,018	0,107
	BMI	-0,314	0,183	0,087	0,011	-0,674	0,046

SE:Standard error, CI: confidence interval

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35 - FRACTIONAL MICROABLATIVE CO2-LASER VERSUS PHOTOTHERMAL NON-ABLATIVE ERBIUM: YAG-LASER FOR THE MANAGEMENT OF GENITOURINARY SYNDROME OF MENOPAUSE: A NON-INFERIORITY, SINGLE-BLIND RCT

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary Syndrome of Menopause (GSM) is defined as a collection of symptoms and signs associated with a decrease in estrogen and other sex steroids involving changes to the labia majora/minora, clitoris, vestibule/introitus, vagina, urethra, and bladder [1]. It is a chronic and progressive condition that can have a significant impact on quality of life (QoL) [2]. The main presenting symptoms are vaginal dryness and dyspareunia though there is a whole myriad of lower reproductive and urinary tract symptoms as well as sexual function symptoms. The primary goal of treatment should be symptom relief and then to restore vaginal physiology [3]. Treatments offered include patient education, lubricants, moisturisers, physiotherapy, oestrogen therapy and laser therapy.

There are two main types of laser therapy (CO_2-laser and Er:YAG-laser) used for this indication. Many studies suggest that both lasers are safe and have a high efficacy for alleviation of vaginal dryness and dyspareunia, as well as restoring the local physiology but there are some conflicting results with more recent placebo controlled studies. However, there is a lack of studies comparing the two laser-technologies for the management of GSM. The primary aim of this study was to assess whether the CO_2-laser results in non-inferior alleviation of GSM symptoms compared to Er:YAG-laser.

MATERIALS AND METHODS

A non-inferiority, single-blind randomised controlled trial in women with symptoms and clinical signs of GSM was undertaken across two centers in Europe. Women were randomized to receive three intravaginal treatments with either the CO2-laser (SmartXide2 V2LR, Monalisa Touch, DEKA, Florence, Italy) or the Er:YAG-laser (Fotona SmoothTM XS, Fotona, Ljubljana Slovenia) according to manufacturers recommended settings. The efficacy was assessed with a combination of subjective outcomes measures (Visual Analogue Scales (VAS), Female Sexual Function Index (FSFI), Day to Day Impact of Vaginal Ageing (DIVA), King's Health Questionnaire (KHQ) and Patient Global Impression of Improvement (PGI-I) and objective measures (Vaginal Health Index Score (VHIS), vaginal pH and vaginal maturation value (VMV) and bladder diaries). Women were followed up at 1, 6 and 12 months post treatment.

RESULTS

Eighty one women were recruited from two sites. Baseline demographics - Mean age 63yrs, BMI 27, years since menopause 13, 17% were breast cancer survivors. 41 received treatment with the CO2 laser and 40 with the Er:YAG laser. There was no significant difference in baseline variables between the two sites. Table 1 demonstrates the average GSM symptom VAS for each arm and time point. The parametric non-inferiority test performed on each questionnaire total score indicated that the DEKA arm was significantly non-inferior than the Fotona arm in all outcome measures except parts of the DIVA questionnaire. No serious adverse events were reported.

INTERPRETATION OF RESULTS

Both laser devices provided statistically significant reductions in GSM symptoms and improvements in QoL. For most outcomes, improvements were seen from 1 month post treatment with a few continuing to improve at 6months and most were maintained at 12 months. The DIVA questionnaire showed a significant improvement related to activities of daily living but with regards to the emotional wellbeing, sexual functioning and body image domains there were a few individual question improvements (including frequency of sexual activity) but total scores did not reach statistical significance. This suggests that although physical symptoms may improve with treatment this is not true for the

psychological components and further investigation of the psychological impact of GSM is required. Outcomes were comparable between sites.

We recognize the lack of a placebo controlled arm in this study as a limitation and also as this study was performed during Covid restrictions, we only have one year objective examination findings in 60% of participants but subjective in 89%.

CONCLUSIONS

In this study, the CO_2-laser was non- inferior compared to the Er:YAG-laser in the alleviation of GSM symptoms and both options provided safe and effective treatment which was maintained over one year. Future studies, should consider the health economics of each option, eg cost of machine /consumables / cleaning between use, length of procedure etc to help guide choice in practice.

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Table 1: Average GSM symptom VAS for each arm and time point. The parametric non-inferiority test is performed on each variable. Significant p-values indicate that the DEKA arm was significantly non-inferior than the Fotona arm. Abbreviations: CFB = Change from baseline.

VAS GSM	Arm	Baseline	Month 1	Month 6	Month 12	CFB	p
Dryness	DEKA	8 [6,9] (n = 41)	5 [2,6] (n = 41)	3 [2,5] (n = 37)	2 [2,5] (n = 36)	-3 [-5,-2] (n = 36)	**<0.001**
	Fotona	7 [5,8] (n = 40)	2 [1,4] (n = 39)	3 [1,4] (n = 36)	2 [1,4] (n = 36)	-3 [-5,-1] (n = 36)	
Dyspareunia	DEKA	8 [5,10] (n = 39)	4 [1,7] (n = 37)	4 [1,5] (n = 34)	2 [1,5] (n = 32)	-3 [-6,-2] (n = 31)	**<0.001**
	Fotona	8 [5,9] (n = 34)	2 [1,4] (n = 32)	2 [1,4] (n = 28)	2 [1,3] (n = 31)	-3 [-6,-1] (n = 29)	
Itching	DEKA	3 [1,5] (n = 41)	1 [0,3] (n = 41)	1 [0,3] (n = 37)	1 [0,2] (n = 36)	-2 [-4,0] (n = 36)	**<0.001**
	Fotona	4 [1,7] (n = 39)	1 [0,4] (n = 37)	1 [0,3] (n = 35)	1 [0,2] (n = 36)	-1 [-4,0] (n = 35)	
Burning	DEKA	5 [2,7] (n = 41)	1 [0,3] (n = 41)	1 [0,2] (n = 37)	0 [0,2] (n = 37)	-1 [-5,0] (n = 37)	**<0.001**
	Fotona	4 [1,6] (n = 40)	1 [0,2] (n = 39)	1 [0,3] (n = 36)	1 [0,2] (n = 36)	-2 [-4,0] (n = 36)	
Dysuria	DEKA	1 [0,2] (n = 41)	0 [0,1] (n = 40)	0 [0,1] (n = 38)	0 [0,1] (n = 35)	0 [-1,0] (n = 35)	**0.001**
	Fotona	1 [0,4] (n = 39)	0 [0,1] (n = 38)	0 [0,1] (n = 37)	0 [0,1] (n = 34)	0 [-2,0] (n = 33)	
Frequency	DEKA	3 [2,6] (n = 41)	2 [0,4] (n = 41)	1 [0,4] (n = 38)	2 [0,4] (n = 37)	-1 [-4,0] (n = 37)	**<0.001**

VAS GSM	Arm	Baseline	Month 1	Month 6	Month 12	CFB	p
	Fotona	4 [0,7] (n = 39)	1 [0,3] (n = 38)	2 [0,3] (n = 37)	1 [0,2] (n = 35)	-2 [-4,0] (n = 34)	
Urgency	DEKA	5 [1,7] (n = 41)	2 [0,5] (n = 41)	1 [0,3] (n = 38)	2 [0,4] (n = 36)	-1 [-3,0] (n = 36)	**<0.001**
	Fotona	6 [1,7] (n = 39)	2 [0,3] (n = 38)	2 [0,4] (n = 37)	1 [0,3] (n = 35)	-2 [-4,0] (n = 34)	
Overall	DEKA	6 [5,8] (n = 41)	4 [2,5] (n = 40)	3 [1,5] (n = 38)	2 [0,4] (n = 35)	-3 [-6,-1] (n = 35)	**<0.001**
	Fotona	6 [5,8] (n = 39)	2 [1,3] (n = 38)	2 [1,4] (n = 36)	1 [1,3] (n = 35)	-4 [-6,-2] (n = 34)	

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36 - IS VULVAR LICHEN SCLEROSUS ASSOCIATED WITH URINARY FLOW OBSTRUCTION? A COMPARATIVE STUDY

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INTRODUCTION AND AIM OF THE STUDY

Vulvar lichen sclerosus (VLS) is a chronic inflammatory skin condition that predominantly affects the anogenital region in women. While VLS is commonly recognized for causing symptoms such as itching, pain, and vulvar atrophy, its potential impact on urinary function is less frequently discussed but may be clinically significant. This study aims to evaluate the relationship between VLS and urinary flow dynamics, investigating whether VLS may contribute to changes in urinary flow parameters.

MATERIALS AND METHODS

This is a prospective cohort study with descriptive and bivariate analysis. We evaluated a cohort of women diagnosed with VLS who were followed between 2022 and 2024 at a tertiary care center. The diagnosis of VLS was established through clinical assessment, with vulvar biopsies performed when indicated. All participants underwent urinary flowmetry studies and were assessed using the International Prostate Symptom Score (IPSS) questionnaire to quantify urinary symptoms. Women with VLS who had previously been treated for urinary incontinence were excluded from the study. The control group consisted of women with stress urinary incontinence (SUI) who underwent urinary flowmetry but did not have VLS.

RESULTS

Of the 141 women enrolled in the study, 92 were selected based on inclusion criteria, and 51 completed the urinary flowmetry testing. The mean age at diagnosis was 58.9 ± 11.58 years, and the average duration of VLS was 6.25 ± 5.05 years. Confirmatory vulvar biopsies were performed in 25.5% of cases. Compared to the control group (N=51), women with VLS (N=51) were significantly older (mean age: 65.16 vs. 56.92 years, P<0.001). A total of 102 urinary flowmetry charts were analyzed and compared between the two groups. There were no significant differences between the groups regarding the type of urinary flow curve (continuous vs. intermittent), shape of the flow curve, maximum flow rate (Qmax: 23 vs. 25.92 mL/s, P=0.156), or urinary volume (289.10 mL vs. 263.14 mL, P=0.174). To further assess flow dynamics, Qmax was analyzed in two subgroups based on age: women over 50 years (Qmax cut-off at 18 mL/s) and women under 50 years (Qmax cut-off at 20 mL/s). No significant differences were found in maximum flow rate within these subgroups. However, residual urinary volume was significantly higher in the VLS group compared to the control group (25.25 mL vs. 6.03 mL, P<0.001). Additionally, 43.9% of women with VLS reported moderate to severe urinary symptoms, as assessed by the IPSS questionnaire.

INTERPRETATION OF RESULTS

The study reveals that women with VLS exhibit alterations in urinary function, particularly an increase in post-void residual volume compared to the control group. Urinary symptoms are also prevalent between VLS patients as assessed by the questionnaire. This finding suggests that VLS may interfere with effective bladder emptying, potentially due to anatomical or functional changes related to the disease. Despite the differences in post-void residual volume, no significant differences were observed between women with VLS and those with SUI in terms of maximum flow rate (Qmax), flow curve type, or urinary volume. This suggests that, in both conditions, the ability to initiate and maintain urinary flow is similar.

CONCLUSIONS

The study highlights the need for heightened awareness of urinary dysfunction in women with VLS, particularly given the increased post-void residual volume. While stress urinary incontinence affects urinary control and leakage, VLS may lead to incomplete bladder emptying, which could increase the risk of urinary retention and infection. Additional studies

are needed to explore the underlying mechanisms of how VLS affects urinary function and whether targeted treatments for VLS can improve these urinary outcomes.

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37 - THE EFFECT OF MAGNETIC STIMULATION ON DETRUSOR SMOOTH MUSCLE CELLS IN MICE USING ACUTE TISSUE DISSECTION TECHNIQUE

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) in women is usually managed by certain lifestyle interventions, behavioural and physical therapies, pharmacotherapy, or surgical interventions such as bladder wall injection of botulinum toxin A or sacral nerve stimulation (1). In the recent years, new treatment modalities such as magnetic stimulation (MS) have been investigated and, in some countries, also incorporated into clinical practice. A systematic review from 2023 has concluded that MS is an effective method of OAB treatment, but that the literature in this area is lacking (2).

The exact mechanism of action of MS is still unknown. It has been proposed that MS causes neuro-muscular depolarisation and some degree of neuromodulation of afferent pudendal nerves and sacral nerve plexus. Moreover, MS might exhibit some effect on intramural nerve plexus of the bladder itself. However, there is almost no data regarding the effect of MS on detrusor muscle itself. Therefore, the aim of our study was to investigate the effect of MS on spontaneous activity and responses of mouse detrusor smooth muscle cels (SMCs) using our own acute tissue preparation technique.

MATERIALS AND METHODS

Adult female NMRI mice were sacrificed utilizing CO_2 and cervical dislocation. After extraction, the bladder was immediately transferred into ice-cold calcium-free Krebs solution (KS) gassed with carbogen. Connective tissue and urothelium were removed under light microscope. The remaining detrusor muscle was dissected into smaller strips and transferred into fresh ice-cold calcium-free KS for 15-20 minutes. The SMC tissue was loaded with a calcium reporter dye fluo-4-AM in HEPES-buffered solution (HBS) for 35-40 minutes at room temperature, transferred into ice-cold HBS and kept on ice until the experiment. SMC responses were obtained using calcium imaging. Calcium imaging was performed using confocal microscope Leica TCS SP5 II. SMC tissue was fixed in recording chamber and perfused with HBS at 37° C. Calcium dye was excited using 488 nm argon laser and emitted fluorescence collected with HyD detector (500-700 nm).

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In order to investigate the effect of MS on detrusor SMCs, we divided the prepared SMCs tissue strips into control and experimental group. In the control group, we stimulated the tissue using the following protocol: i) stimulation of tissue using 25 µM cholinomimetic drug carbachol (CCh) for 5 minutes, ii) pause (25 minutes), iii) stimulation of tissue using 25 µM CCh for 5 minutes. In the experimental group, the following protocol was used: i) stimulation of tissue using 25 µM CCh for 5 minutes, ii) magnetic stimulation (20 minutes), iii) stimulation of tissue using 25 µM CCh for 5 minutes.

This CCh concentration was used based on our previous study, which discovered that stimulation of mouse detrusor SMCs using 25 µM CCh causes: i) activation of virtually all SMCs in the tissue strip, ii) highest relative activity of SMCs, iii) visible contraction of tissue strips. MS was performed using Magneto Stym® stimulator (Iskra Medical, Ljubljana, Slovenia) (MS frequency 50 Hz, stimulator intensity 100%, 6 seconds of stimulation followed by 10-second pause).

To investigate the responses of detrusor SMC to MS, the following parameters were analysed:

- difference between the number of active SMCs before and after MS compared to the control group,
- presence of tissue contraction before and after MS compared to the control group,
- time to tissue contraction before and after MS compared to the control group,
- difference in the maximal tissue contraction before and after MS compared to the control group,
- difference in the surface of the contracted tissue before and after MS compared to the control group.

These parameters were analysed using ImageJ software and the data was analysed using Sigmaplot and SPPP Statistics programme. Statistical significance was set at p-value <0.005.

RESULTS

Tissue slices of 5 different animals were used in this study. We discovered that repeated stimulation of detrusor SMCs using 25 µM CCh results in statistically smaller number of activated SMCs during second stimulation (33.5±7.9 cells during first stimulation and 20.3±6.9 cells during second stimulation in the control group (p=0.009), and 43.0±8.9 and 20.3±10 cels in the experimental group, respectively (p=0.019)), but without significant difference between groups. Tissue contraction was present in all tissue strips during first stimulation in both groups, in all tissue strips during second stimulation in control group and 80 % of strips in the control group (p=0.368). Time to tissue contraction did also not differ within groups (p=0.144 for control group and p=0.068 for experimental group).

However, there was statistically significant difference in maximal tissue contraction before and after MS in the experimental group (p=0.046), but not in the control group (p=0.052), with the second contraction being smaller. When comparing the ratio of maximal tissue contraction between both stimulations, we discovered that the average maximal contraction during second stimulation was 28.3±5.5 % of the average maximal contraction during first stimulation for the control group and 15.4±4.0% for the experimental group (p=0.009). We also discovered statistically larger average difference in the surface of contracted tissue between the first and second stimulation, which was 12279 μm^2 for the control group and 36691 μm^2 for the experimental group (p=0.029).

INTERPRETATION OF RESULTS

Using our acute tissue preparation technique, we discovered that MS could exhibit direct effects on mouse detrusor SMCs, as we observed: i) statistically smaller maximal tissue contraction during second stimulation in experimental group compared to control group, ii) statistically smaller percentage of maximal tissue contraction between both stimulations with CCh in experimental compared to control group, and iii) statistically larger average difference in the surface of contracted tissue between the first and second stimulation in the experimental compared to control group. However, these findings open numerous research questions that should be investigated in the future. For example, is the effect of MS on mouse detrusor tissue mediated via L-type calcium channels, intramural nerve plexus, or some other, currently unknown mechanism? Are these effects short- or long-term? These questions will have to be addressed in future research to determine the effect of MS on detrusor SMCs.

CONCLUSIONS

Our preliminary results show that MS could exhibit a direct effect on mouse detrusor SMCs.

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38 - IS DAY CASE SURGERY THE WAY FORWARD IN UROGYNAECOLOGY?

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INTRODUCTION AND AIM OF THE STUDY

Elective surgery waiting lists have been increasing in the UK since 2008, but this has worsened further because of the Covid-19 pandemic. Gynaecology waiting times have been disproportionately affected compared with other surgical specialties[1]. In recent years another contributing factor is the unavailability of hospital beds, which can result in cancellation of surgery at short notice. In order to improve efficiency and allow women to receive the treatment they need in a timely manner; we have reviewed local surgical practices and outcomes to consider increasing the number of day case procedures performed.

MATERIALS AND METHODS

Patient medical notes and the UK national urogynaecological (BSUG) database were reviewed to collect and analyse data of all women who had vaginal repair surgery without hysterectomy, performed by an individual surgeon at a busy district general hospital between December 2015 and April 2024.

RESULTS

Ninety-five women underwent 96 vaginal repair operations during this period, with 55.8% being discharged on the same day and a further 33.3% within 24 hours of surgery. The median age of these women was 64 years, and mean BMI 29.7. Ninety (93.8%) cases were performed under general anaesthetic alone with three (3.1%) under regional anaesthetic alone and three (3.1%) with combined anaesthetic. Mean operating time was 41 minutes and mean blood loss 105ml [range 30-500ml]. Amongst the women who were discharged on the same day of surgery, there was no increase in readmission to hospital or return to the operating theatre. Table 1 shows comparisons between patients who had day-case surgery and those who stayed at least one night in hospital.

Figure 1: Pelvic floor surgery performed by type

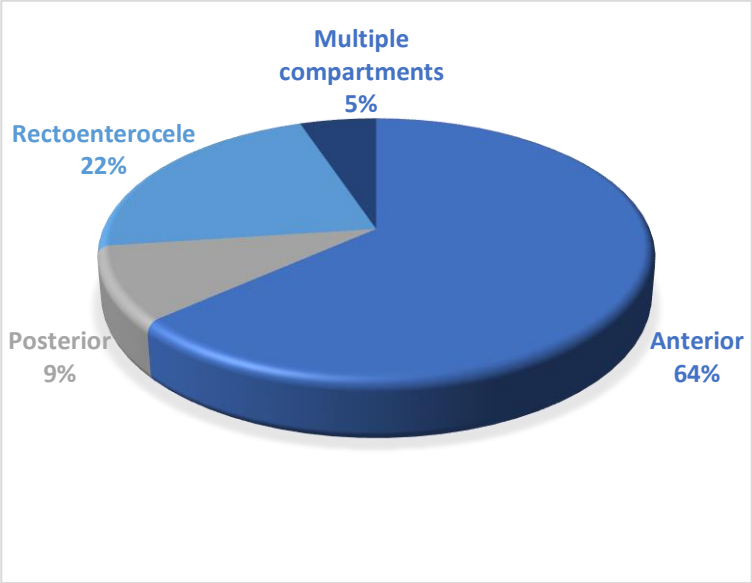

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Table 1: Comparison of day case and non-day case procedures

	Same-day discharge (n=54)	Patients who stayed minimum 1 night (n=42)
Type of vaginal repair performed: n (%)		
Anterior	40 (74.1)	21 (50)
Posterior	6 (11.1)	3 (7.1) *including 2 cases of SSF
Rectocele	8 (14.8)	13 (31) *including 1 case of SSF
Multiple compartments	0 (0)	5 (11.9) *including 1 case of SSF
Anaesthesia: n (%)		
General anaesthetic	53 (98.1)	37 (88.1)
Spinal anaesthetic	0 (0)	3 (7.1)
Combined GA and spinal	1 (1.9)	2 (4.8)
Mean operating time (min)	33	52
Mean blood loss (ml)	83 [range 30-250]	133 [range 50-500]
Patient characteristics		
Median age at time of surgery (years)	64	64
Mean pre-operative BMI (kg/m^2)	33	30.3

INTERPRETATION OF RESULTS

Almost 90% of our patients who received pelvic floor repair surgery were discharged within 24 hours of surgery. The cohort of women who stayed at least one night in hospital post-op included all four patients that had sacrospinous fixation (SSF) at the time of vaginal repair, and five out of six that had regional anaesthetic for their surgery. Patients that had repair of rectocele or multiple compartments were more likely to stay overnight. There was also an increased mean blood loss for those who stayed overnight. There was no difference in median age, and a prolonged stay was not associated with increased BMI.

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To facilitate early discharge, vaginal packs were not used in most patients, and post-op and urinary catheters were removed in the operating theatre at the end of surgery. This facilitates early mobilisation and reduces post-operative pain. Furthermore, placing such patients earlier on operating lists can facilitate same-day discharge.

CONCLUSIONS

Day case surgery for pelvic organ prolapse appears to be a safe and effective way to treat affected women without increased complication. It is likely to prevent cancellation of surgery, and therefore be more cost effective due to increased theatre utilisation and lower post-operative staffing costs. We encourage routine usage of day case vaginal surgery for pelvic organ prolapse.

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39 - DOES WEIGHT-LOSS SURGERY IMPROVE URINARY INCONTINENCE?

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INTRODUCTION AND AIM OF THE STUDY

Obesity is a major modifiable etiological factor for a multitude of health problems. It is estimated that 40% of the world's adult female population is overweight, with 15% of women being obese and grossly obese following the WHO definitions on obesity.

Obesity negatively affects women's health, leading to comorbidities such as diabetes, coronary artery disease and cancer. It also has a significant negative impact on women's quality of life (QOL) effecting both icontinence and sexual function .

Our study aims to investigate the effects of **bariatric surgery** on **urinary incontinence (UI)** in obese female patients who underwent laparoscopic weight reduction surgery.

MATERIALS AND METHODS

56 morbidly obese women who had been referred to our hospital's bariatric clinic and who were scheduled to undergo laparoscopic sleeve gastectomy (LSG) or laparoscopic gastric banding (LGB) for weight loss were identified in consecutive order and invited to complete an anonymous written questionnaire.on urinary incontinence (UI) and its effect on their quality of life (QOL) Their consent to participate in the study was sought. Ethical approval for the study was obtained from our hospital's Ethics Committee.

Patients were asked a series of demographic questions and asked to complete the ICIQ-IU-SF questionnaire before and 12 months after surgery to assess the type and severity of their UI and impact on QOL.

Their obstetric and gynaecological histories were recorded , as well as the presence of co-morbid conditions such as diabetes and hypertension , and their smoking status. Patients who had underwent pelvic surgery for incontinence or prolapse and those with a pre-existing neurological condition were excluded from the study.

RESULTS

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56 Caucasian women were recruited and asked to complete the anonymous questionnaire. 52 sets of questionnaires were completed and returned and included in the study. Of these 30 patients underwent LSG and 22 LGB surgery.

Respondents had a mean age of 42.4 years, (range 28- 58 years). Body mass index (BMI) before surgery ranged between 38.6 kg/m^2 and 55.8 $kg/m^2$with a mean of 46.2 kg/m^2

70% of respondents were parous , with a mean parity of 2. 6 (11.5%) respondents were menopausal at the time of surgery , whilst 40 patients (77%) reported menstrual irregularities, predominantly oligomenorrhoea.

85% of respondents reported symptoms of the metabolic syndrome including diabetes mellitus and hypertension..15 (28.8%) respondents were smokers before surgery.

There was a statsistically significant reduction in BMI in all respondents 1 year post surgery , with a mean BMI of 32.4 kg/m^2. ($p < 0.0001$).

41 (79%) of participants had reported incontinence episodes before surgery Of these , 17 participants answered "urine never leaks" to Question 6 of the ICIQ-UI-SF at the 12-month follow-up and were considered cured. The cure rate for all types of UI was cummulatively around 41.5%, with improvement in SUI being more common at 60%, followed by UI at 37% and MUI at 28%.

Moreover , incontinence-specific QOL scores as portrayed in the ICIQ-IU-SF questionnaire improved by 17% at 12 month follow-up.

There was no difference in improvement scores in the parous group compared to the nulliparous group in both UI cure rates and QOL domains.

Participants also reported significant impovement in other metabolic conditions, with improved glycaemic control, diabetes and hypertension., as well as improvement in menstrual regularity.

INTERPRETATION OF RESULTS

Urinary incontinence is prevalent amongst obese individuals , severely affecting their QOL. Women with a raised BMI more commonly report UI episodes and seek surgical treatment for incontinence. Moreover, t is established that success rates for incontinence procedures are lower for obese women than their counterparts with a normal BMI.

Our study demonstrates that bariatric surgery improves UI symptoms as well as UI associated QOL scores in our population.Our findings reflect similar results reported in the international literature.(1)

It is postulated that the improvement in UI is due to the reduction in abdominal and visceral fat leading to a decrease in the intrabdominal pressure following bariatric surgery.

However, this improvement could be contributed by reasons beyond weight reduction. Improvement in UI and especially in QOL is likely multifactorial, contributed by other potential mediating biological, comorbid, and psychological factors.(2)

Improvement in menstrual irregularities post-surgery indicates improvement in sex-hormone synthesis, and possible normalization of the androgen/oestrogen ratios.

Multiple chronic conditions, such as diabetes mellitus and cardiovascular diseases, which are typically associated with obesity, may also contribute to UI. Furthermore, medication for these conditions can negatively impact QOL Another possible reason is improvement of prolapse of pelvic organs secondary to increased intra-abdominal pressure from obesity contributing to UI. Bariatric surgery results in substantial improvement in these factors, as well as reduction in medication use.

CONCLUSIONS

Weight loss surgery leads to a clinically significant improvement in all types of UI at short term follow-up, regardless of patient's reproductive history or other comorbid conditions. Long term follow-up is required to investigate whether this improvement is sustained.

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40 - THE RELATIONSHIP BETWEEN LEVATOR ANI INTEGRITY AND POSTPARTUM SEXUAL DYSFUNCTION: A SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Vaginal delivery may impact both the structures and functionality of the pelvic floor, particularly the levator ani muscle (LAM). Childbirth-related pelvic floor injuries can lead to dysfunctions such as incontinence and prolapse, as well as sexual dysfunction and pelvic pain.

We aimed to systematically review the literature on the association between LAM avulsion and sexual function after childbirth.

MATERIALS AND METHODS

We systematically searched the PubMed, EMBASE, CINAHL, Web of Science Core Collection, CENTRAL (Cochrane), Clinicaltrials.gov and ICTRP databases. According to our selection criteria studies were reporting on the association between LAM avulsion and sexual function within 24 months after childbirth. The former determined by imaging or clinical examination and the latter through questionnaires or interviews. There were no restrictions on the mode of birth or parity. Risk of bias assessement was evaluated using ROBINS-I tool (Risk of Bias in Non-randomized Studies of Interventions). A meta-analysis was not performed due to methodological differences among the studies.

RESULTS

From 7621 studies identified, 11 were eventually included, reporting on 1722 women. For LAM assessment, 10 studies used transperineal ultrasound (TPUS), one study utilized magnetic resonance imaging (MRI), and one performed clinical examination via digital palpation. Sexual function was evaluated using various questionnaires, including the International Consultation on Incontinence Questionnaire-Vaginal Symptoms (ICIQ-VS) (n=4), ICIQ-FLUTsex (n=2), the Australian Pelvic Floor Questionnaire (APFQ) (n=1), the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) (n=1), the Female Sexual Function Index (FSFI) (n=1), the Vaginal Changes Sexual and Body Esteem (VBSE) (n=1), or a self-developed questionnaire (n=1). Most of the studies (8 /11) were prospective cohort studies; two had a case-control design, and one was cross-sectional.

Only one study demonstrated an adverse relationship between LAM avulsion and sexual function. Women with avulsion had lower FSFI-scores (16.7±8.9) than women without avulsion (20.7±6.9;p=0.034).This study was specifically powered to assess this association and included only women who had undergone instrumental delivery. The remaining studies did not observe any relationship between LAM avulsion and sexual function. Bias risk assessment revealed that only 1 out of 11 studies had a quality score of 7 or higher.

INTERPRETATION OF RESULTS

There are several reasons that could explain why we did not find correlation. Among the various symptoms of sexual dysfunction, we expect that injury to the levator ani muscle is most likely to affect mainly vaginal laxity and dyspareunia. The use of different tools does not always differentiate between various dysfunctions and tends to provide an overall result, which is more likely to be influenced also by psychosocial factors than only by the levator ani integrity itself. Additionally, vaginal symptoms may vary for women depending on the absence or presence of sexual activity and its frequency, which could influence their responses in the questionnaires. Furthermore, it is questionable whether 3D/4D transperineal ultrasound (TPUS), which was most frequently used for levator ani muscle assessment, can reliably identify all types of levator ani injuries.

The use of seven distinct questionnaires, various evaluation techniques for the levator ani, and different time points of interventions made comparisons within these studies problematic.

CONCLUSION

Based on the available data, we could not conclude an association between LAM integrity and sexual function following vaginal childbirth.

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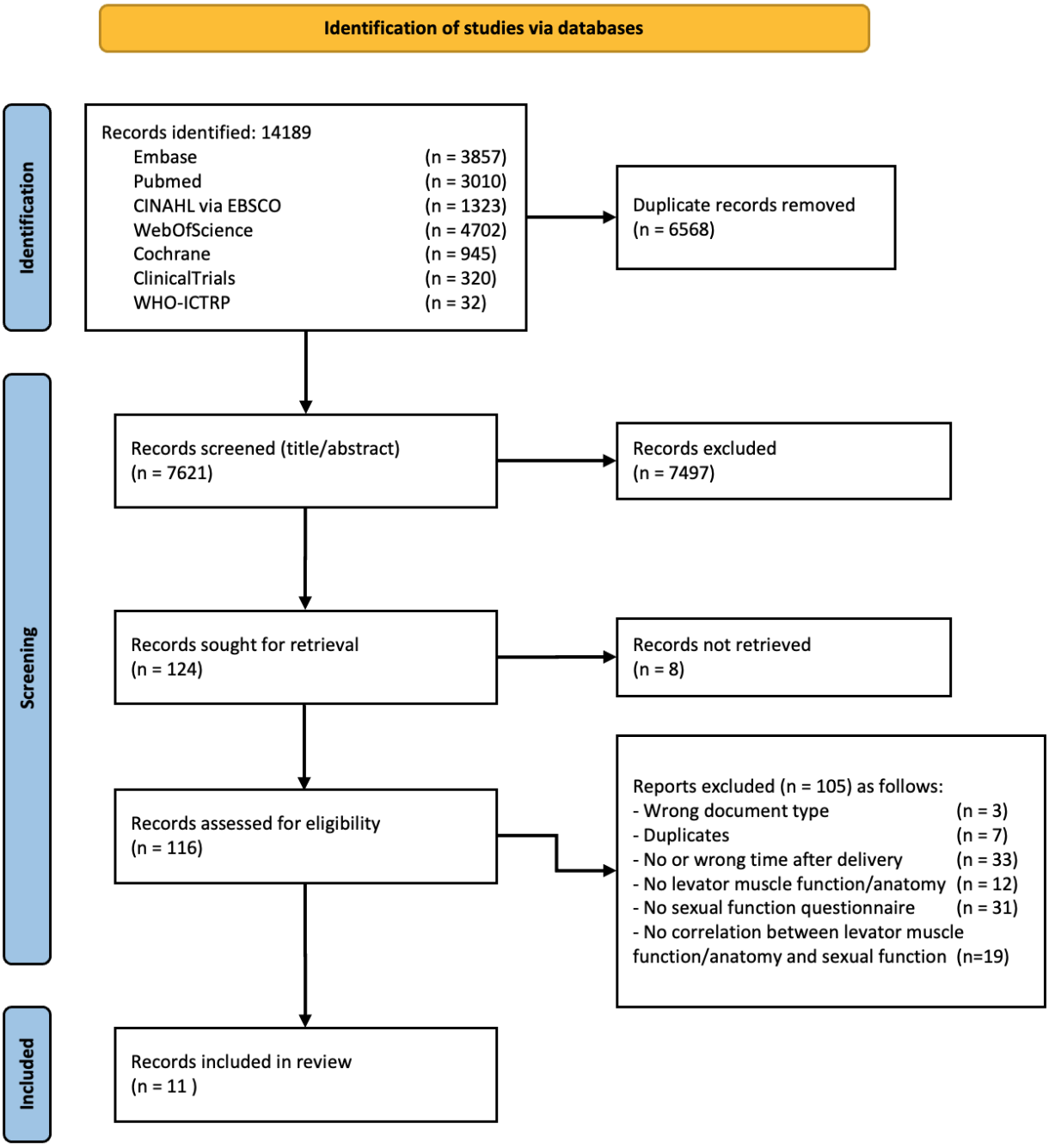

Figure 2: PRISMA flowchart demonstrating the study identification and selection process.

41 - THE CORRELATION BETWEEN CATASTROPHIZING OF OVERACTIVE BLADDER SYMPTOMS AND QUALITY OF LIFE

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) is a common and chronic condition that significantly impacts patients' quality of life (QoL). Catastrophizing, an anxiety-related negative thought pattern, is often studied in pain-related conditions. This study aimed to assess the association between catastrophizing of urinary incontinence (UI) symptoms and QoL among OAB patients, considering the adverse effects of OAB on daily life.

MATERIALS AND METHODS

This cross-sectional, questionnaire-based study included women with OAB. We adapted a validated pain catastrophizing questionnaire for UI symptoms. The Pain Catastrophizing Questionnaire (PCS) and Pain Self-Efficacy Questionnaire (PSEQ) were modified to evaluate UI catastrophizing. QoL was assessed using the Urinary Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ-7), and Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12). Spearman's correlation coefficient was used to determine the relationship between UI catastrophizing and QoL. Univariate analysis and multivariable linear regression were conducted to assess the association between the two.

RESULTS

The study included 85 participants, divided into catastrophizers (n=44) and non-catastrophizers (n=41) based on the median PCS score (37.00). Significant differences were found in QoL scores, particularly in the IIQ-7, where catastrophizers had a higher median score than non-catastrophizers (13.00 vs. 2.00, $p<0.01$). The UDI-6 scores were also higher in the catastrophizing group (24.0 vs. 18.0, $p<0.01$). The analysis suggests that as catastrophizing increases, so does the deterioration in reported QoL scores.

INTERPRETATION OF RESULTS

UI catastrophizing significantly impacts the QoL of women with OAB, especially in daily activities and emotional well-being.

CONCLUSIONS

Incorporating psychological assessments and interventions into OAB management could improve patient outcomes.

Table 1: Comparison of Quality of Life (QoL) Questionnaire Scores Between Groups with and without Catastrophizing

Question, median (IQR)	None- catastrophizing, N=41	Catastrophizing, N=44	P value
Has OAB affected your ability to do household chores (cooking, housecleaning, laundry)?	0 (0-1)	2 (0-3)	<0.01
Has OAB affected your physical recreation such as walking, swimming, or other exercise?	1 (0-2)	0.5 (0-3)	<0.01
Has OAB affected your entertaining activities (movies, concerts, etc.)?	0 (0-1)	3 (0-3)	<0.01
Has OAB affected your ability to travel by car or bus more than 30 minutes from home?	0 (0-2)	2 (0-3)	<0.01
Has OAB affected your participation in social activities outside your home?	0 (0-1)	2 (1-3)	<0.01
Has OAB affected your emotional health (nervousness, depression, etc.)?	0 (0-0.5)	1.5 (0-2.75)	<0.01
Has OAB made you frustrated?	0 (0-2)	3 (0.25-3)	<0.01

IQR – interquartile range

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42 - A NOVEL APPROACH TO ASSESSING PELVIC FLOOR HEALTH: 2D DIC ON DYNAMIC MRI

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INTRODUCTION AND AIM OF THE STUDY

Computational models are increasingly employed to investigate the biomechanics of childbirth [1] and pelvic floor dysfunctions [2]. However, the accuracy of these models relies on the availability of reliable experimental data. Digital image correlation (DIC) [3] on magnetic resonance images (MRI) offers a non-invasive approach to quantifying tissue deformation and displacement in vivo, providing valuable inputs for model validation.

This study aims to utilize 2D DIC to analyse the displacement patterns of pelvic organs and structures in women during the Valsalva manoeuvre. The acquired data will be used to validate existing computational models of pelvic floor, thereby enhancing our understanding of the underlying biomechanical processes and informing the development of improved clinical interventions.

MATERIALS AND METHODS

Previously acquired MRI data from 10 non-pregnant women without history of previous pregnancy and without morphological and functional signs of pelvic floor dysfunction were used with subjects performing Valsalva manoeuvre. The images were processed using VIC-2D software (Correlated Solutions, Inc., Irmo, South Carolina, USA) to determine 2D displacement and strain fields (Fig. 1b). Seventeen anatomical landmarks were identified on pelvic organs and structures to quantify their movement (Fig. 1a).

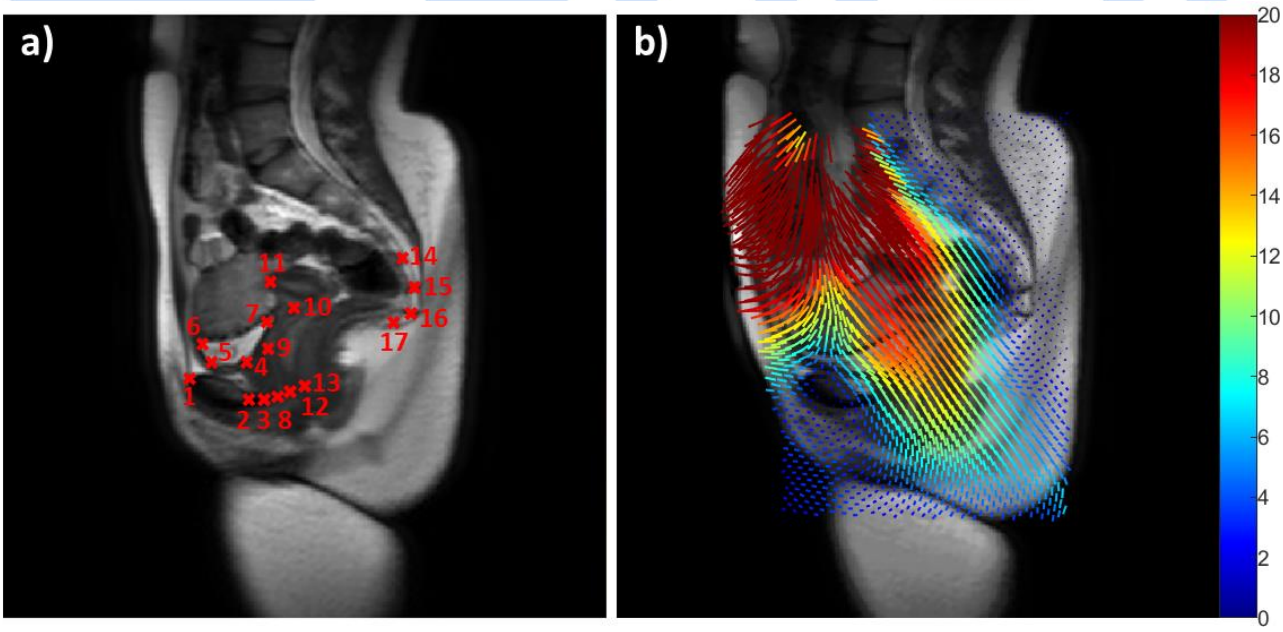

Fig. 1 a) Placement of landmarks. b) Displacement field (mm) under Valsalva manoeuvre.

RESULTS

The overall displacement pattern was consistent across all subjects, characterized primarily by the descent of the bowels and increased intra-abdominal pressure (IAP). Fig. 2 illustrates the antero-posterior, cranio-caudal, and 2D displacement magnitudes of the identified landmarks. In average, the landmarks 11, 7, 10, 6, and 13 exhibited the highest displacement magnitudes, ranging from 11.7 to 17.2 mm.

INTERPRETATION OF RESULTS

To our knowledge, this is the first application of 2D DIC to MRI data of the pelvis and pelvic floor. By comparing these results to normative data from healthy individuals, this promising technique could identify deviations indicating dysfunction. It has the potential to identify displacement patterns that may increase the risk of pelvic organ prolapse or other disorders, informing preventive measures and treatment strategies. Additionally, comparing the predicted displacement patterns from computational models to our experimental DIC data can contribute to the verification and validation of these models, enhancing their reliability.

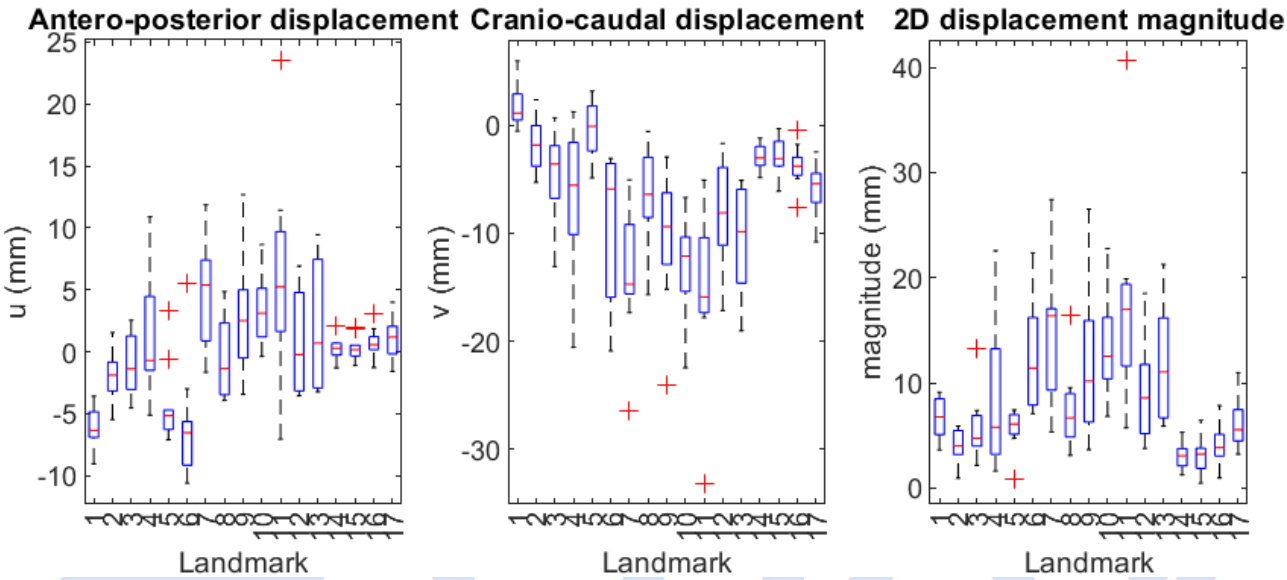

Fig. 2: Antero-posterior (mm), cranio-caudal (mm) and 2D displacement magnitude (mm) of landmarks.

CONCLUSIONS

This technique has several limitations, including out-of-plane motion, noise in MRI images, insufficient spatial resolution, and difficulty handling large deformations. Individual anatomical variations and physiological differences can influence displacement patterns. The Valsalva manoeuvre intensity and duration can vary, and IAP was not directly assessed. Despite these limitations, MRI-based DIC remains a promising technique for obtaining non-invasive clinical data that can provide valuable information for validating computational models.

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43 - USE OF NATIVE TISSUE LAPAROSCOPIC HYSTEROSACROPEXY – A PILOT STUDY

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common condition affecting roughly half of women who have given birth, with a lifetime risk of surgical intervention at about 13%. Successful surgical treatment hinges on accurate diagnosis and a tailored surgical approach, considering the specific location and extent of the prolapse.

Research suggests that damage to the sacro-uterine ligaments, resulting in a De Lancey level I defect, is the most prevalent cause of POP. This defect is often the primary or sole contributor to prolapse in the anterior and middle compartments, affecting approximately 70% of POP patients.

The study aimed to evaluate the surgical technique of laparoscopic hysterosacropexy utilizing native tissue for the repair of apical prolapse. Several factors were assessed, including:

- Procedure tolerance and patient convalescence.
- Early postoperative course.
- Long-term effectiveness.
- Long-term complications.

MATERIALS AND METHODS

The study involved 10 patients diagnosed with a De Lancey level I pelvic organ prolapse (POP) of at least POP-Q stage II. Exclusion criteria included obesity, prior abdominal, pelvic, or knee surgery.

Procedure: Laparoscopic hysterosacropexy was performed using either the semitendinosus or gracilis tendon as a natural graft instead of synthetic mesh. Tendon choice was based on individual patient factors.

Assessment: The Pelvic Floor Impact Questionnaire Short Form (PIFQ-7) and gynecological examinations were conducted pre-operatively, 6 weeks, and 6 months post-operatively.

RESULTS

Early observations indicated good tolerance of the procedure with no immediate complications. All patients reported significant improvement in pre-procedure symptoms as assessed by the PIFQ-7 Short Form. Anatomical outcomes were excellent, with POP-Q stage 0 achieved in level I for all but one patient who developed a POP-Q stage II rectocele at 6 months. Some patients experienced mild post-operative pain in the operated leg.

The average operating time of 85 minutes was comparable to laparoscopic hysterosacropexy using synthetic mesh. No significant blood loss occurred in any of the ten operations.

The study group included 10 patients aged 29 to 67 (mean age 44.3 years). The Friedman test demonstrated significant reductions in PFIQ-7, UIQ-7, CRAIQ-7, and POPQ-7 scores post-procedure, with test power exceeding 0.99, confirming adequate sample size to detect meaningful changes.

The least significant difference (MID) was notably larger than the standard deviation difference between the first and third measurements for PFIQ-7, UIQ-7, and CRAIQ-7, indicating clinically significant improvements for these variables. Clinically significant changes between the first and third measurements were also observed for PFIQ-7 and POPQ-7 in 80% of patients, and for UIQ-7 and CRAIQ-7 in 60% of patients.

Post-hoc tests revealed statistically significant differences for PFIQ-7 and UIQ-7 at both the first and second post-procedure measurements compared to pre-procedure. For CRAIQ-7 and POPQ-7, only the second post-procedure measurement showed a significant difference compared to pre-procedure.

INTERPRETATION OF RESULTS

While the initial results are promising, longer-term follow-up is necessary to draw definitive conclusions. A prospective,randomized study with a larger cohort is planned to compare the current gold standard (laparoscopic hysterosacropexy using alloplastic material) with the tendon-based technique described here.

Although gynecologists can potentially perform the tendon harvesting procedure, the learning curve may be steep.Therefore, collaboration with an orthopedist is recommended, particularly during the initial implementation phase.

Laparoscopic surgery using synthetic mesh has been the traditional treatment for level I defects. However, complications associated with the use of alloplastic material in laparoscopic hysterosacropexy are not or rarely reported, here's a growing trend toward utilizing the patient's own tissues to minimize complications associated with synthetic materials. Furthermore, due to FDA warnings and concerns surrounding mesh, patient preference is increasingly shifting toward native tissue repair for pelvic floor reconstruction.

CONCLUSIONS

Laparoscopic hysterosacropexy using tendons offers a valuable alternative for patients who decline alloplastic materials,and may be particularly beneficial in regions where alloplastic materials are restricted or unavailable.

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44 - INSTRUMENTS USED FOR THE ASSESSMENT OF OAB SEVERITY IN UROGYNECOLOGIC INTERVENTIONAL TRIALS: A SCOPING REVIEW

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INTRODUCTION AND AIM OF THE STUDY

While there are established guidelines for the investigation of Overactive Bladder (OAB) in clinical and research settings, it appears that clinicians in published studies utilize a variety of different instruments to evaluate the severity of OAB, both subjectively and objectively.[1] This scoping review aims to explore the use of various assessment tools that have been applied to evaluate the severity of OAB in female patients within the context of both pharmaceuticals and interventional trials for OAB treatment in the relevant published literature.

MATERIALS AND METHODS

The Cochrane Library, ClinicalTrials.gov, WHO ICTRP, PubMed/MEDLINE, and ClinicalTrials.gov were all searched extensively with a deadline of December 31, 2023, in order to find pertinent published research. Keywords we used for the search were: Severity, OAB, Anticholinergic agents, Botulinum Toxin A, Percutaneous tibial nerve stimulation (PTNS), Mirabegron, Vibegron, ICIQ, pad test, Bladder Diary. We include only Randomized controlled trials in which women with OAB received any treatment for OAB, and OAB severity was evaluated before or/and after the treatment. Exclusion criteria included studies that were not in English, did not use a specific instrument to evaluate OAB objectively and/or subjectively, and did not adequately describe primary or secondary outcomes. Our main objective was to analyse the variety of objective and subjective assessment tools used in high quality published literature to compare treatments for OAB. As an additional result, we aim to assess the fluctuations in this variability over time and across different types of OAB treatment. According to the specified qualifying criteria, two reviewers conducted independent reviews of each paper by examining the title and abstract. Two reviewers performed independent evaluations of the full texts of eligible papers to extract data. Identification and screening of studies conducted in accordance with PRISMA 2020 guidelines.[2]

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RESULTS

A total of 7721 articles were identified, yielding 34 papers for data extraction with a total population of 4299 women. The most used assessment tools for subjective evaluation of OAB are: any kind of Bladder Diary (32 studies), Overactive Bladder Symptom Score (OABSS) (10 studies), Incontinence Impact Questionnaire (9 Studies), Short Form (IIQ-7) (9 studies), Overactive Bladder Questionnaire (OAB-Q) (8 studies), King's Health Questionnaire (KHQ) (6 studies), Urinary Distress Inventory, Short Form (UDI-6) (5 studies), Patient Global Impression of Improvement (PGI-I) (4 studies), and International Consultation of Incontinence Questionnaire (ICIQ-SF) (3 studies). The most common instrument for objective evaluation of OAB are: Urodynamic assessments (9 studies) and 24-hour pad test in 3 studies (Table 1). The variability of assessment for objective and subjective evaluation of the severity of OAB by year is shown in Chart 1 and Chart 2.

INTERPRETATION OF RESULTS

This scoping review's thorough analysis of 34 papers reveals a notable variation in the tools used to assess OAB severity both before and after therapy in high quality contemporary published literature. Bladder Diaries, OABSS and IIQ-7 are mostly used for subjective assessments, while Urodynamic assessments, and 24-hour pad tests dominate objective evaluations.

CONCLUSIONS

The observed heterogeneity highlights the need to employ standardised evaluation methods to enhance the comparability of OAB treatment studies.

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Table 1. Frequencies of objective and subjective tools for assessment of severity of OAB in high quality pharmaceuticals and interventional trials of OAB treatment.

Assessment tool	Pre-intervention (n, %)	Post-intervention (n, %)	Pre- & Post intervention (n, %)
Objective evaluation			
Urodynamics	9 (26%)	6 (18%)	6 (18%)
24-hr pad test	3 (9%)	3 (9%)	3 (9%)
1-hr pad test	1 (3%)	1 (3%)	1 (3%)
Maximum capacity at cystoscopy	1 (3%)	1 (3%)	1 (3%)
Urine NGF	1 (3%)	1 (3%)	1 (3%)
Measurement of warning time	1 (3%)	1 (3%)	1 (3%)
Subjective evaluation			
Bladder diary	32 (94%)	29 (85%)	29 (85%)
OABSS	10 (29%)	10 (29%)	10 (29%)
IIQ-7	8 (24%)	7 (21%)	7 (21%)
OAB-Q	8 (24%)	7 (21%)	7 (21%)
KHQ	6 (18%)	6 (18%)	6 (18%)
UDI-6	5 (15%)	5 (15%)	5 (15%)
PGI-S / PGI-I	0 (0%)	3 (9%)	0 (0%)
ICIQ-SF	3 (9%)	3 (9%)	3 (9%)
PPBC	3 (9%)	3 (9%)	3 (9%)
OAB-V8	2 (6%)	1 (3%)	1 (3%)
ICIQ-OAB	1 (3%)	1 (3%)	1 (3%)

I-QOL=Incontinence Quality of Life; ICIQ =International Consultation Incontinence Questionnaire; IIQ-7=Incontinence Impact Questionnaire-7; KHQ=King's Health Questionnaire; PGI-I=Patient Global Impression of Improvement; PGI-S=Patient Global Impression of Symptoms; UDI-6=Urinary Distress Inventory 6; OABSS= Overactive Bladder Symptom Score; OAB-Q= Overactive Bladder Questionnaire; OAB-V8= Overactive Bladder Questionnaire V8.

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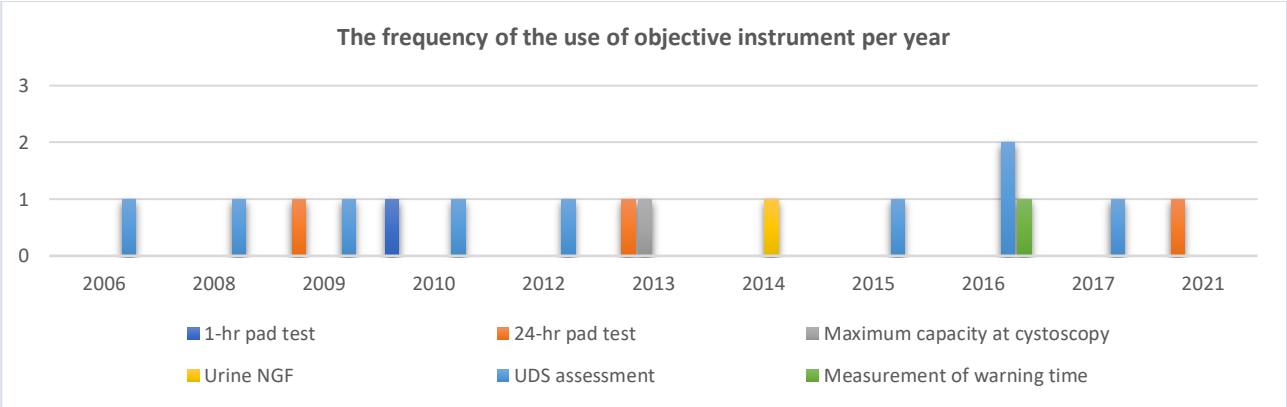

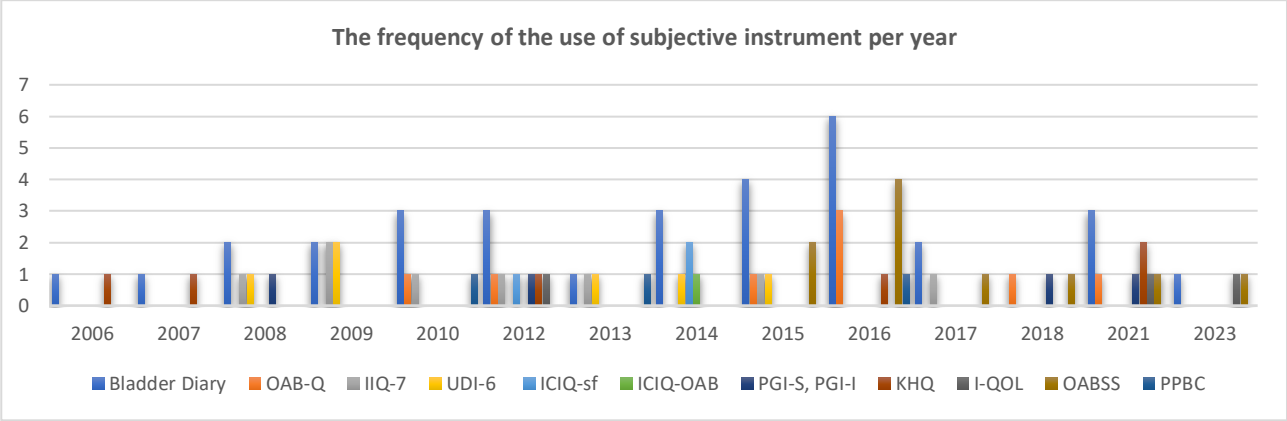

Charts 1 & 2: The frequency of the use of objective and subjective instrument per year.

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45 - TOTAL VAGINAL LENGTH AND LAPAROSCOPIC SACROCOLPOPEXY OUTCOMES

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INTRODUCTION AND AIM OF THE STUDY

Total vaginal length (TVL), defined as the length of the vagina from posterior vault to the hymen, is one of the major parameters for pelvic organ prolapse (POP) assessment. It is defined as the length of the vagina from posterior vault to the hymen level when point C (or D) is in its normal position [1]. It has been reported that TVL is significantly associated with POP symptoms even without previous hysterectomy or POP repair.

Short TVL (STVL) has also been associated with pessarotherapy failure, dyspareunia [2] and can pose challenges to perform adequate sacrospinal fixation. However, there is no concensus about the optimal management of patients with STVL and symptomatic POP or a unified cut-off for its diagnosis.
The aim of this study was to explore and compare core patient reported and clinical urogynecological outcomes in patients who had a laparoscopic mesh sacrocolpopexy (LSC) for a symptomatic POP and either had a short (STVL group) or normal (NTVL group) TVL.

MATERIALS AND METHODS

The study was approved by the relevant ethical committee and all patients provided written informed consent for their surgical procedures and the use of data for research purposes.
For the purpose of this study the cut-offs of ≤ 6 cm [3] and ≥ 8 cm were used to define STVL and NTVL respectively. This was a retrospective cohort study conducted in a tertiary university affiliated urogynecological center. The study population comprised patients with history of hysterectomy and who later had LSC between 1 January 2015, and 31 January 2023 and had preoperative TVL ≤ 6 cm or TVL ≥ 8 cm. Surgical procedures were performed by one of four subspecialist urogynecologists using the same surgical technique, sutures and mesh material for all LSCs.
Clinical, patient-reported, and imaging outcomes were assessed preoperatively and at the 12-month post procedure. The departmental medical database was used to gather data on patients' demographics, medical history, history of abdominal and/or gynecological surgery, previous reconstructive POP surgery, obstetric history, urinary or bowel symptoms, POP-Q staging points and hospital length of stay. Perioperative complications were categorized according to the Dindo-Clavien classification. Pre- and post-operative Quality of life (QoL) was evaluated using PFDI-20, PGI-I and ICIQ-UI SF questionnaires.
Statistical analyses were performed using SAS 9.4 software (SAS Institute Inc., Cary, NC, USA). The cut-off for statistical significance was set at $p<0.05$.

RESULTS

A total of 166 patients were included (89 (53.6%) and 77 (46.6%) in the STVL and NTVL groups respectively). Pre-operatively, apart from TVL, the groups differed significantly in POPQ point C with more prominent apical prolapse stage II in the STVL group (41.6% vs. 19.5%) and stage III-IV in NTVL group (27.0% vs. 45.4%) (p=0.005). The groups did not differ in age, BMI, parity, comorbidities or peri-operative outcomes.
At follow-up, the mean TVL was 7.9 in both STVL and NTVL group. The frequency of patients with a PGI-I score of 1-2 (Highest satisfaction) were comparable in both of our cohorts (97.5% vs 94%; p=0.279). Similarly there were no differences between groups in QoL improvement both on PFDI-20 and ICIQ-UI SF (Table 1).
Sonographic evaluation at the 1-year follow-up point demonstrated fulfilled criteria for properly placed mesh in 79.5% (58/73) of STVL patients and 74.1% (43/58) of NTVL patients and did not reveal any significant difference between the groups (p=0.472). Pain related outcomes are presented in table 1.

Table 1: Postoperative QoL and pain at 1-year follow-up

Variables	STVL (N = 80)	NTVL (N = 67)	p-value

Δ PFDI pre-op – post-op [mean; SD]	142.5; 116.2	107.6; 119.2	0.142
Δ ICIQ-UI pre-op – post-op [mean; SD]	0.17; 6.6	1.59; 5.8	0.496
Pain VAS ≥ 3 [n/N; %]	7/80 (8.8%)	3/67 (4.5%)	0.513
De novo dyspareunia in sexually active women [n/N; %]	6/32 (18.8%)	1/26 (3.9%)	0.116

STVL – short TVL, NTVL – normal TVL, VAS – visual analogue scale, SD – standard deviation

INTERPRETATION OF RESULTS

This study demonstrated an elongation of average TVL after LSC in women with STVL. Although only speculative, this postoperative lengthening might be explained by the more likely anterior displacement of the vaginal apex after surgery as a result of the more likely association of an apical prolapse with an anterior, rather than a posterior, defect. To test this assumption, we undertook a post hoc analysis of the subgroup of patients with a more dominant cystocele (n=39/80 (48.8%)). The mean preoperative TVL in this subgroup was 5.7 cm and the TVL elongated by 2.2 cm, which did not differ statistically from the rest of the cohort. Hence, it seems that the upward pull on the vaginal apex by the mesh is a more plausible explanation for this lengthening. The patient reported rate of de novo pain and dyspareunia was higher in the STVL group at the 12-month follow-up. However, these differences did not reach statistical significance, which could be a reflection of our sample size. Nevertheless, the mean overall satisfaction and QoL in STVL and NTVL were similar.

CONCLUSIONS

This study shows that laparoscopic sacrocolpopexy is an effective and safe option for managing an apical symptomatic pelvic organ prolapse in hysterectomized patients with a short vagina.

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46 - THE RELATIONSHIP BETWEEN SEXUAL ASSAULT IN CHILDHOOD AND ADULTHOOD, POST-TRAUMATIC STRESS DISORDER AND LOWER URINARY TRACT FUNCTION IN WOMEN: A CROSS-SECTIONAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Studies have reported a high prevalence of lower urinary tract symptoms (LUTS) in sexual assault (SA) survivors. Nevertheless, a causal relationship has not been proven. The relationship between past SA, specific LUTS and findings of urodynamic studies (UDS) has not been assessed yet, and the impact of post-traumatic symptoms on LUTS has not been addressed.

The primary objective of the study was to determine the prevalence of past SA, in childhood or in adulthood, in women with LUTS. Secondary objectives were to assess the association between childhood or adult SA and 1. specific LUTS, 2. UDS findings. The mediating effect of post-traumatic symptoms on LUTS, and UDS findings were also assessed.

MATERIALS AND METHODS

This is a cross-sectional study, including women referred to the urogynecology clinic for UDS due to LUTS. Following IRB approval and informed consent, the subjects completed the following self-report and quality of life (QoL) questionnaires: Pelvic Floor Distress Inventory (PFDI-20), Pelvic Organ Prolapse/Incontinence Sexual Questionnaire (PISQ-12), the Short Depression, Anxiety and Stress Scale (DASS-21), the Childhood Trauma Questionnaire (CTQ), the PTSD checklist for DSM-5 (PCL-5), the Dissociative Experiences Scale (DES-II). The lower urinary tract's function was assessed through a comprehensive evaluation that includes a general medical and urogynecological history, a urogynecological physical examination, and conventional UDS, including uroflowmetry, and filling and voiding cystometry.

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RESULTS

One hundred and twenty-nine women were recruited the study. Eight women (6.2%) had PTSD unrelated to SA and were excluded from the study, thus a total of 121 women were included in the study. The women were divided into three groups according to self-report QoL questionnaires. Group 1 included women with no SA history (n=87, 71.9%). Group 2 included women with SA history and no PTSD (n=24, 19.84%). Group 3 included women with SA history and PTSD (n=10, 8.3%).

Demographic characteristics and background morbidity were similar, but for a younger mean age in group 3 (58.31±11.6 vs 62.71±12.88 vs 51.55±8.11 respectively, p=0.04) and a higher percentage of pre-menopausal women in group 3 (25.9% vs 16.7% vs 60%, respectively, p=0.03). Per anamnesis we observed that more women in group 3 reported dry overactive bladder (OAB), combined with stress urinary incontinence (SUI) (p=0.01) and dyspareunia (p=0.02). On UDS, we observed a higher frequency of SUI in group 3 (31% vs 36.4% vs 70% respectively, p=0.05). We observed worse LUTS-related and pelvic floor-related QoL in group 3, according to the Urinary Distress Inventory (UDI-6) score (37.71±28.18 vs 54.13±28.53 vs 59.17±26.63 respectively, p=0.01).

INTERPRETATION OF RESULTS

In this cohort of women with LUTS, the prevalence of SA history was 28.14% which is similar to the reported prevalence in the general population. SA survivors with PTSD were younger and a larger proportion were pre-menopausal. In SA survivors with PTSD, we observed an increased rate of dry-OAB combined with SUI, and a greater impact of LUTS on QoL. We also observed a higher rate of dyspareunia in women with SA and PTSD. As for UDS findings, we observed a higher rate of isolated SUI in women with SA and PTSD. This finding may be related to their younger age.

CONCLUSIONS

This study confirms previous data, indicating a higher rate of OAB in women with PTSD following SA, and a higher symptom burden in this population. Interestingly, in our cohort of women with SA and PTDS, urgency was combined with SUI. The significant prevalence of women with PTSD in this population of urogynecologic patients stresses the importance of adopting a trauma-informed approach in the setting of a urogynecology clinic.

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Table 1

	No Sexual Abuse History **Group 1** **(n=87, 71.9%)**	**History of Sexual abuse, no PTSD** **Group 2** **(n=24, 19.84%)**	**History of Sexual abuse, with PTSD** **Group 3** **(n=10, 8.3%)**	**P value**
Symptom	*(n, %)*	*(n, %)*	*(n, %)*	
Stress urinary incontinence (SUI)	11 (12.91)	1 (4.2)	1 (10)	0.48
Dry overactive bladder	7 (8.2)	0 (0.0)	0 (0.0)	0.23
Wet Overactive bladder	17 (20)	4 (16.7)	3 (30)	0.68
Mixed urinary incontinence	32 (37.6)	10 (41.7)	2 (20)	0.48
Dry overactive bladder with SUI	7 (8.2)	5 (20.8)	4 (40)	**0.01**
Voiding symptoms	22 (25.9)	9 (37.5)	3 (30)	0.54
Constipation	13 (15.3)	9 (37.5)	2 (20)	0.06
Dyspareunia	8 (9.4)	3 (12.5)	4 (40)	**0.02**
UDS finding	*(n,%; mean±SD)*	*(n,%; mean±SD)*	*(n,%; mean±SD)*	
Detrusor overactivity, no leakage	13 (15.5)	2 (9.1)	2 (20)	0.66
Detrusor overactivity with leakage	15 (17.9)	5 (22.7)	2 (20)	0.87
Stress urinary incontinence	26 (31)	8 (36.4)	7 (70)	**0.05**
Low compliance bladder	5 (6.1)	0 (0.0)	1 (10)	0.41
FDTV (ml)	112.5 ± 61.96	134.78 ± 73.46	104.63 ± 47.39	0.29
MCC (ml)	444.47 ± 141.96	499.41 ± 166.80	467.95 ± 149.50	0.29
Residual volume (ml)	90.01 ± 35.98	111.15 ± 60.78	66.11 ±31.20	0.50
BOOIF>18	5 (6.3)	1 (4.3)	0 (0.0)	0.68
BCI<100	21 (26.3)	9 (40.9)	3 (30)	0.41

FDTV – first desire to void; NDTV – normal desire to void; MCC – maximum cystometric capacity; BOOIF – bladder outlet obstruction index female; BCI – bladder contractiity index.

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47 - PLATELET RICH PLASMA FOR THE MANAGEMENT OF STRESS URINARY INCONTINENCE: LONG-TERM FOLLOW-UP

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INTRODUCTION AND AIM OF THE STUDY

Platelet-rich plasma (PRP) therapy has gained significant interest as a minimally invasive treatment in various medical fields due to its regenerative properties. PRP promotes tissue repair and healing, making it an attractive option for treating conditions like stress urinary incontinence (SUI) in women. Tissue regeneration and support of urethral function, potentially offering a safe alternative or adjunct to surgical interventions.We aim to evaluate the long-term effect of PRP injections in the treatment of female SUI.

MATERIALS AND METHODS

A prospective evaluation of patients with urodynamic stress incontinence that received autologous PRP injections for the management of their disease was performed. The follow-up visits included performance of 1hr-pad test and completion of the ICIQ-FLUTS and PGI-I questionnaires. Our primary outcome was to evaluate the incontinence episodes frequency post-treatment. Secondary outcomes included the scores of questionnaires and the 1hr- pad test.

RESULTS

Twenty-five women were eligible for the long-term analysis. For the 12-month follow-up the participants had to decide whether to proceed with midurethral sling surgery or withdraw from the waiting list. Finally,16/25 of participants attended the 12-month follow-up visit. Four patients decided to procced with surgery. Six were still be improved and satisfied with the therapeutic result and were no longer interested in surgery. Two reported no change compared to pre-treatment incontinence status. For the remaining 3, while reported improvement during the first 12 months after treatment, they seem to recur to the pre-treatment status after the first year of follow-up. The 1-h pad test was significantly decreased from baseline, while no difference was observed in the comparison among 6- and 12-month follow-up.

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INTERPRETATION OF RESULTS

The study evaluates the long-term effectiveness of autologous PRP injections in treating female stress urinary incontinence (SUI). PRP provides initial symptom improvement, reducing the need for surgery in some patients. However, its long-term efficacy is inconclusive, with some experiencing a return to pre-treatment condition after one year.

CONCLUSIONS

PRP may benefit a significant proportion of patients at least in the short-term. While PRP may delay surgery for certain patients, it is not a definitive solution for all cases of SUI, indicating the need for further research to understand its variability and long-term effectiveness.

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48 - THE IMPACT OF SHORT-TERM PELVIC FLOOR MUSCLE TRAINING ON THE BIOMECHANICAL PARAMETERS OF THE PELVIC FLOOR AMONG PATIENTS WITH STRESS URINARY INCONTINENCE: A PILOT STUDY

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INTRODUCTION AND AIM OF THE STUDY

The first-line treatments for stress urinary incontinence (SUI) are lifestyle modifications and pelvic floor muscle training (PFMT) (1). Despite considerable research, the exact mechanism of action of PFMT in SUI is unknown. While various potential mechanisms are known, they lack strong supporting evidence. Without this understanding, it is challenging to identify appropriate indications for PFMT, leading to inquiries into the best timing and methods for its introduction to maximize effectiveness. It is unclear whether understanding PFMT can be effectively translated into practical application. Our study aimed to improve the understanding of the biomechanical changes occurring in the pelvic floor due to PFMT, which is responsible for improving SUI symptoms.

MATERIALS AND METHODS

In this prospective cohort study, we examined the impact of a six-week PFMT program in women with stress or stress-predominant urinary incontinence on the biomechanical parameters of the pelvic floor. Fifty-two biomechanical parameters were measured by Vaginal Tactile Imager (VTI) at baseline and at a six-week follow-up. In addition, we have assessed the Urinary Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ-7), and Patient's Global Impression of Severity (PGI-S) scores at enrolment and at six-week follow-up. We have divided our cohort into two groups, Improved Group (IG) and Not-improved Group (NIG), based on the change in UDI-6 score after six weeks and compared the biomechanical changes within and between the two groups. The National Scientific and Research Ethics Committee approved our study.

RESULTS

The overall cohort included twenty women with stress or stress-predominant SUI based on MESA questionnaire [MESA SUI index (mean ± SD) 63.3%±24.0%, MESA UUI index (mean±SD) 13.3%±15.3%, $p<0.01$]. Out of the 52 measured VTI parameters, nine have changed significantly after six weeks of PFMT in the entire cohort. Eleven women (IG) achieved the minimum 11-point change in the UDI-6 scaled score. In IG, we found that three VTI parameters differed significantly: Parameter 1: the maximum value of force measured during the VTI probe insertion [(N, mean ± SD) 0.55±0.18 vs. 0.78±0.31, $p=0.049$], parameter 18: the maximum gradient at the upper third of the vagina (posterior) [(kPa/mm, mean ± SD) 0.16±0.05 vs. 0.36±0.28, $p=0.048$], and parameter 47: integral force change in the anterior compartment at reflex pelvic muscle contraction (cough) [(N, mean ± SD) 1.61±0.85 vs. 1.97±0.71, $p=0.045$].

INTERPRETATION OF RESULTS

The biomechanical parameters were examined within the IG after six weeks of PFMT. Three parameters changed significantly. These include an increase in muscle strength in the area of the frontal vaginal wall, which of course, is not surprising as it increases the support of the urethra. However, our results suggest that the muscular strength of the entire vaginal wall, and in particular the upper third of the vagina, which may correspond to Level I support, may play a more significant role than previously suspected in maintaining the continent state.

CONCLUSIONS

Our study revealed a significant association between the improvement of strength in targeted muscle groups and a reduction in urinary incontinence symptoms. Identifying specific muscles undergoing changes during PFMT provides valuable insights for specific interventions. Our findings may help to create personalized and targeted interventions to improve the quality of life of women affected by SUI.

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49 - DRUG-COATED MESH IMPLANTS PRODUCED BY MELT ELECTROWRITING FOR PELVIC ORGAN PROLAPSE REPAIR

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INTRODUCTION AND AIM OF THE STUDY

In the recent years, pelvic organ prolapse cases have been rising, affecting women's quality of life. Synthetic surgical transvaginal meshes previously used for this disease's treatment were withdrawn from the United States market in 2019 based on the high risks associated with these products, such as infection, erosion of the mesh through the vagina, and recurrent prolapse. As a result, the development of meshes made from biodegradable materials has emerged as an alternative solution, as well as the use of 3D printing technology to produce them.

The main objective of this work was conduct microbiological assays to assess the effectiveness of the incorporated drugs in preventing biofilm formation and, therefore, mesh infection. Polycaprolactone meshes for pelvic organ prolapse repair were fabricated using a melt electrospinning writing technique and subsequently coated with antibiotics commonly used to treat genitourinary tract infections: azithromycin (0.15% and 0.20%), gentamicin sulfate (1% and 2%), and ciprofloxacin (0.9%). Microbiological tests, including zone inhibition and biofilm formation assays, were performed to evaluate the effectiveness of these antibiotics in preventing mesh infection against common bacterial strains associated with these infections, specifically Escherichia coli, methicillin-susceptible Staphylococcus aureus (MSSA), and methicillin-resistant Staphylococcus aureus (MRSA).

MATERIALS AND METHODS

Mesh-related infections, though uncommon, are serious complications that can occur after pelvic floor repair, affecting up to 8% of cases. These infections can cause significant discomfort for patients and may even necessitate the removal of the mesh implant. While often asymptomatic, mesh infections can hinder proper integration of the mesh with surrounding tissues, sometimes resulting in mesh exposure. In this study, Polycaprolactone (PCL) was used to print meshes, which were then coated with antimicrobial agents—gentamicin sulfate, azithromycin, and ciprofloxacin—based on their common use in treating genitourinary tract infections. Facilan™ PCL 100, a technical-grade biodegradable polymer with a low melting point and fast solidification, was chosen for its suitability in melt electrospinning writing (MEW). The antibiotics were purchased from Sigma-Aldrich, with ciprofloxacin and gentamicin sulfate dissolved in distilled water and azithromycin in ethanol. Bacterial strains Escherichia coli (E. coli) ATCC 25922, Methicillin-susceptible Staphylococcus aureus (MSSA) ATCC 29213, and Methicillin-resistant Staphylococcus aureus (MRSA) ATCC 43300 were used to test the antibiotics' effectiveness.

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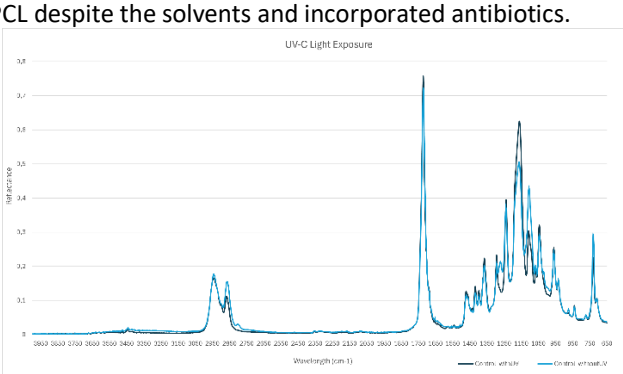
RESULTS

FTIR spectroscopy analysis was performed to ensure the antibiotics were incorporated into the 3D-printed meshes. The FTIR spectra were obtained for PCL meshes with the previously mentioned concentrations of the antibiotics (gentamicin sulfate, azithromycin, and ciprofloxacin), without them (control), and with only the solvents used (distilled water and pure ethanol).

When analyzing the FTIR spectra of the control sample, that can be seen in Figure 1, peaks in the wavelengths of PCL's chemical bonds and functional groups were observed, as detailed in table of the Figure1 These peaks were consistently present in all samples, although sometimes with lower intensity. This is expected, as all the samples were composed of PCL despite the solvents and incorporated antibiotics.



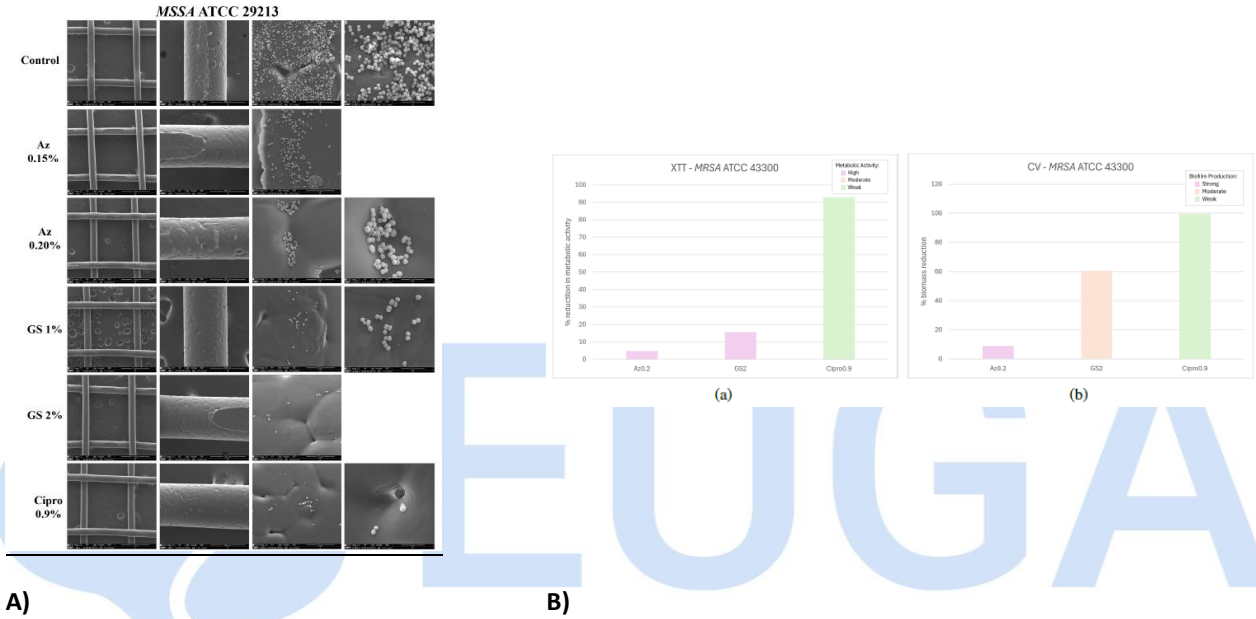
a)

Wavelength (cm^{-1})	Peak characteristics
2943	Asymmetric CH_2 stretching
2866	Symmetric CH_2 stretching
1721	$C = O$ carbonyl stretching
1471 - 732	Bending, wagging, twisting, and stretching vibrations of the CH_2 groups, C-O and C-C bonds in the ester linkages of the polymer

b)

Figure 3. a) FTIR spectrum of PCL meshes that were sterilized under UV-C light and PCL meshes that were not subjected to this process. b) PCL peaks detected in FTIR spectroscopy.

The SEM images regarding MSSA ATCC 29213 can be seen in Figure 2A). From these images, it can be seen that the control has a high bacteria and biofilm presence. It is evident that all of the meshes present less bacterial content, with particularly low bacterial presence in ciprofloxacin and gentamicin-loaded meshes. In the azithromycin-incorporated meshes, the bacterial content is moderate. Figure 2B (a) for MRSA ATCC 43300 shows that ciprofloxacin presented a high reduction of the biofilm's metabolic activity. On the other hand, for both the 0.2 % azithromycin and 2% gentamicin, the metabolic activity of the bacteria's biofilm was not largely reduced. Ciprofloxacin presented a high biofilm biomass reduction in Figure 2B (b) for MRSA ATCC 43300. A moderate biofilm concentration reduction can be observed in 2% gentamicin, while 0.2% azithromycin presented a low reduction. The obtained SEM images regarding MRSA ATCC 43300 can be seen in Figure 2A). A high reduction of bacterial content is clearly observable in ciprofloxacin-loaded meshes, while this is not observable with azithromycin and gentamicin.



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INTERPRETATION OF RESULTS

Regarding the PCL's FTIR spectrum, typical peaks of symmetric and asymmetric CH2 stretching were detected at 2943 and 2866 cm−1, respectively. The most prominent peak at 1721 cm−1, which corresponds to the carbonyl stretching, and the peak complex around the 1471-732 cm−1 region were also detectedAll of the tested meshes presented FTIR peaks characteristic of PCL, confirming its presence. In the meshes coated with antibiotics, a slight decrease of the PCL peaks intensity can be seen, which suggests that, although PCL is still present, other substances are also present in the meshes, even if other chemical bonds or functional groups are not noticeable.

Regarding MSSA, SEM images show a significant reduction in bacteria in all samples compared to the control, which aligns with the inhibition zones observed earlier, demonstrating the antimicrobial activity of the drugs against MSSA. The results of the XTT (tetrazolium salt) and Crystal Violet (CV) assays differ for the lowest concentration of azithromycin. The fact that this bacterium appears to have more viable cells than biofilm strength could be due to the bacteria being in a proliferative state. The formation of biofilm despite the antibacterial activity observed in the inhibition zones on the azithromycin-coated meshes suggests that this antibiotic is effective against planktonic bacteria, but the biofilm formed is more tolerant to this drug. The lack of difference in the results between the gentamicin sulfate concentrations suggests that 1% concentration is sufficient to inhibit biofilm production. Thus, it is confirmed that this bacterial strain is susceptible to all the drugs, with a high inhibition of biofilm formation with ciprofloxacin and gentamicin.

CONCLUSIONS

- FTIR spectroscopy alone was insufficient to confirm antimicrobial incorporation
- Ciprofloxacin proved to have antibacterial activity and substantially reduced biofilm formation in E. coli ATCC 25922, MSSA ATCC 29213 and MRSA ATCC 43300.
- Azithromycin and gentamicin sulfate have antibacterial activity against E. coli ATCC 25922 and MSSA ATCC 29213 strains.
- Gentamicin inhibited biofilm formation in E. coli ATCC 25922 and MSSA ATCC 29213.

50 - PRACTICE AND EXPERIENCE OF OBSTETRIC CARE PROVIDERS IN THE MANAGEMENT OF OBSTETRIC ANAL SPHINCTER INJURIES: INTERIM RESULTS OF AN INTERNATIONAL SURVEY

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASI) are a common complication of vaginal deliveries resulting in frequently serious long-term consequences for women, in particular anal/faecal incontinence (FI) (Sultan 2024). The aim of this study was to explore the current practice, experience, challenges, and strategies related to the management of OASI in a sample of obstetric care providers (obstetricians, obstetric nurses, and midwives) in various (mostly European) countries.

MATERIALS AND METHODS

A cross-sectional, online questionnaire-based study was conducted on a representative sample of healthcare professionals directly involved in obstetric care and/or the management of vaginal delivery-related OASI (mostly obstetricians and midwives as well as urogynaecologists). The questionnaire distributed included 30 questions of both qualitative and quantitative nature and covered demographic and professional background, maternity care practices, specific protocols in place for OASI detection, training and education, interdisciplinary collaboration as well as challenges encountered in both detection and management of OASI.

RESULTS

By August 2024, data from 84 responders was analysed, originating from 18 countries with Netherlands (15 responders, 17.9%), United Kingdom (13 responders, 15.5%), and Italy (12 responders, 14.3%) being the most represented. Most responders were physicians, with an equal proportion of urogynaecologists and obstetricians-gynaecologists (n=55 for either specialty, 65.5%); while only two midwives (2.4%) responded. The tier of 1 to 5% as the approximate local rate of OASI (out of any vaginal childbirth) detected was reported by nearly 2/3 of all responders (n=53, 65.4%). Routine assessment of OASI risk factors was reported by less than 40% (n=33; 39.3%). However, a protocol for perineal protection during delivery was frequently in place (n=53, 63.1%). Digital rectal examination (DRE) emerged as the method utilised by over half of respondents (n=53, 63.1%) for the detection of OASI shortly after or during delivery; however, as many as 38.1% (n=32) reported no DRE (or other screening method) routinely in place for early detection. Availability of ultrasound evaluation for an early detection was only anecdotally reported (n=1, 1.2%). This was in contrast with the methods routinely in use later in the postpartum period, with endoanal ultrasound (EAUS) moderately well available (for 40.48% [n=34] of responders). Other imaging methods, such as translabial ultrasound or magnetic resonance imaging were only anecdotally in use (n=1 for either method, 1.2%). As many as 2/3 of participants (n=54, 64.29%) considered DRE a sufficient diagnostic tool for early OASI detection. Regarding the timing of surgical repairs for OASI, nearly all respondents (n=81, 96.4%) reported that primary repair (within 24 hours) was the standard practice at their hospital. Late repair was an option reported in only 13 cases (16.67%). Many participants know the current Sultan Classification of OASI (n=73, 88.0%) as well as identify the phenomenon of occult OASI (n=68, 81.9%). Specific training on OASI management is provided at approximately 60% of institutions (n=50, 60.2%), with two-thirds of the respondents (n=56, 66.7%) reported receiving on-the-job training for detecting OASI through digital rectal examination. A similar proportion (n=48, 57.1%) indicated that they had undergone formal training sessions during residency. Additionally, over 30% of respondents (n=34, 40.5%) reported formal training specific to specialists. However, nearly 10% (n=9, 10.7%) stated that they had not received any specific training. The local collaboration between the obstetrics and colorectal surgery domains was perceived as not sufficient by more than 1/3 of respondents (n=30, 36.1%). National or institutional guidelines for the management of OASI were reported as being in place in the majority of cases (n=64, 77.1%).

INTERPRETATION OF RESULTS

The findings of this study reveal both encouraging practices and areas for improvement in the management of OASI across the countries that provided feedback. While the majority of respondents report having national or institutional

guidelines in place, there are notable gaps in routine risk assessment and early detection protocols. The widespread use of DRE for OASI detection is positive, yet the lack of routine screening in over a quarter of cases is concerning. The limited availability of advanced imaging techniques in the immediate postpartum period suggests an area for improvement in diagnostic capabilities. Notably, the most frequently reported local OASI rate of 1-5% is far below the 26% rate consistently found in recent largest meta-analyses available, such as that by Sideris *et al*. 2020 and Packet *et al*. 2023 (the latter limited to primiparas), indicating a wide gap of underdiagnosis or underreporting of OASI in clinical practice. The high awareness of the Sultan Classification and occult OASI among participants indicates a good theoretical knowledge base. However, the perceived insufficiency in collaboration between obstetrics and colorectal surgery highlights a need for improved interdisciplinary approaches.

CONCLUSIONS

These results underscore the importance of standardised protocols, comprehensive training, and enhanced interdisciplinary cooperation, as well as improvement in diagnostic armamentarium for OASI, as to optimise its management and reduce long-term complications for women giving vaginal childbirth.

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51 - The risk factors of vaginal wall erosion after implant used transvaginal pelvic organ prolapse surgery: systematic review and meta-analysis.

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INTRODUCTION AND AIM OF THE STUDY

Female pelvic organ prolapse (POP) is a common condition, with an 11% probability of requiring surgery by age 80. Although alloplastic implants used in POP vaginal surgery can yield excellent anatomical outcomes, concerns about complications have led many countries to restrict or ban these procedures [1, 2]. In our previous meta-analysis, we evaluated the safety and effectiveness of vaginal pelvic organ prolapse (POP) surgeries with vaginal implants. This study revealed that, while implant-based surgeries achieved a significantly higher anatomical success (OR: 3.22, CI: 2.06-5.0), a key finding was that vaginal wall erosion emerged as the most common and clinically relevant complication, with a broad range of occurence between 3% and 20% [3]. The aim of our meta-analysis was to assess the potential risk factors and patient characteristics that predispose to vaginal wall erosion (VWE), thus reducing the incidence of erosion and increasing the safety of implant surgery.

MATERIALS AND METHODS

A search across three major databases (PubMed, Embase, and Central) identified over 17,000 potential publications, from which 36 were retrieved. Our study examined possible risk factors for VWE, including age, menopause, BMI, smoking, sexual activity, hormone replacement therapy, diabetes mellitus, prior and concomitant hysterectomy, and the presence of postoperative hematoma. We used a univariate meta-analysis framework to estimate the odds ratios (OR) of each outcome in females after POP vaginal surgeries with vs. without VWE.

RESULTS

Patients who underwent concomitant hysterectomy (OR: 3.33, CI: 1.71-6.48), who smoked (OR: 3.65, CI: 2.56-5.20), or who developed postoperative hematomas (OR: 2.52, CI: 1.98-3.20) had a significantly higher risk for VWE. The other examined did not show a statistically significant difference between the two groups.

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INTERPRETATION OF RESULTS

Based on our results, there are risk factors for erosion depending on the patient's individual characteristics and comorbidities, for which implant-assisted prolapse surgery is not advisable. However, in many “low-risk” populations of patients, implant-assisted prolapse surgery can provide a much better anatomical outcome with a low risk of vaginal erosion. Therefore, the use of vaginal implants for prolapse should be reconsidered and adapted to the individual patients’ characteristics. Additional in case of some risk factors like, age, HRT, sexual activity prospective data collection is necessary for a more accurate assessment of this issue. An international POP surgical registry or further observational clinical studies with extended follow-up periods could offer more valuable insights.

CONCLUSIONS

Based on our results, a history of smoking, concomitant hysterectomy, and the development of postoperative hematoma were identified as risk factors for vaginal wall erosion following vaginal implant reconstruction for POP. Smoking and concomitant hysterectomy are associated with impaired vaginal microcirculation and postoperative haematoma can cause infection, thus contributing to the risk of vaginal erosion. This information is crucial to consider when selecting the type of surgery; however, further well-structured comparative studies are necessary to make precise and comprehensive recommendations.

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52 - THE ROLE OF MAGNETIC STIMULATION IN THE TREATMENT OF URINARY INCONTINENCE: 10 YEARS OF RESEARCH EXPERIENCES

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The role of magnetic stimulation in the treatment of urinary incontinence: 10 years of research experiences

INTRODUCTION AND AIM OF THE STUDY

Magnetic stimulation (MS) is a type of conservative treatment for urinary incontinence (UI). It was first approved by the FDA in 1998. Given the drawbacks of other conservative treatments for UI, research on MS is warranted, considering its inherent advantages: a non-invasive nature and patient acceptability. MS is widely offered as a treatment for UI, although weak evidence of the long-term effects has been found in systematic reviews (SRs). EUA recommendations from 2020 advised not offering MS in the treatment of UI or OAB but current EUA recommendations from 2024 no longer contain this statement in the recommendations.

Aim of our presentation is to point out the role of MS in the treatment of female UI with the results from our 10 years of experiences, which were supported with two SRs. Moreover, SRs were conducted to comprehensively evaluate the studies of the efficacy of MS as a treatment option of UI and evaluate possible side effects.

MATERIALS AND METHODS

We present our research experiences in last 10 years, in which we conducted clinical prospective non-randomized study and a prospective randomized, sham-controlled trial (RCT). In first study we included 75 patients with all three types of UI (SUI, MUI, UUI), which completed 3-moths follow-up. Later on we conducted RCT study in which we included 40 female patients with UUI, who were randomized in active and sham-controlled group in a ratio 2:1 in favour of the active group. Follow-up was made after 6-monts. Additional to clinical studies, SRs were conducted according to the PRISMA checklist, the methodological quality of the reviews included was assessed using the AMSTAR2 quality assessment tool. Moreover, we used NHLBI Study Quality Assessment Tools in order to assess the quality of the studies included.

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RESULTS

The success rate of using MS in treating UI was based on standardized ICIQ-UI SF questionnaires, which is the only validated questionnaire in Slovenian language. UI improved after treatment with MS. In the first study, the ICIQ-UI SF score improved in patients regardless of the type of UI. The greatest decrease in post-treatment assessment ICIQ-UI SF scores was seen in patients with SUI. Moreover, according to our RCTstudy, we were able to prove a statistically significant difference between the active and sham group; we proved a statistically significant difference within the active treatment group before and 6-months after the treatment of UUI with MS. The score of the ICIQ-UI SF questionnaire was significantly lower (p=0,034).

INTERPRETATION OF RESULTS

From our experiences with MS research we proved positive effect of MS in the treatment of UI. MS showed positive results for patients with SUI and UUI, as the mechanical principle of MS is mostly based on Faraday's law of induction. On one hand the induced current on the nerves causes the activation of weakened or damaged muscle fiber. In the case of UUI, afferent branches of the pudendal nerve are stimulated by the alternating magnetic field to inhibit the detrusor muscle through central reflexes. At the beginning we treated patients with 10 treatments (2-3 times a week), later, due to findings in SRs, we continued with 12 treatments 2-3 times a week). We extended follow-up to 6-months. With our RCT study we statistically proved significant difference in the treatment of UUI within the active treatment. According to our SRs, there are poorly standardized MS protocols. To clarify the impact on the extent of improvement after therapy with MS, the stimulation parameters should be unified with regard to time frame, impulse intensity, and follow-up tracking. A specific therapy program for different types of UI is usually suggested by producers and based on previous experience. Moreover, our systematic literature review pointed out that there were no significant differences in the incidence of side effects between the sham and active treatment groups. Side effects of MS in comparison to other active treatments are minimal and transient.

CONCLUSIONS

MS is an effective, safe, and painless treatment method, which allows for the treatment of UI to begin before the symptoms seriously affect an individual's quality of life. MS could become the first-choice method for treating UI, especially in patients not responding to medication or those for whom medication causes adverse side effects. It could also be the best choice for patients that are not suitable for surgery, patients who do not know how to use or patients who refuse to use electrostimulation electrodes, or fail to perform regular pelvic floor exercises. With our results of studies and conclusions from SRs, we are aware, that a progress towards improving this therapy was made in the last 10 years and contributed also to position the MS therapy as one of the treatment options for UI. Moreover, with all energy-based devices (EBDs), which are gaining popularity, MS could be a complementary tool to fulfil integral theory as a cause of UI. Nonetheless, further clinical trials are needed to more accurately define the optimal duration of MS therapy, suitable stimulation parameters, and a standardized protocol to ensure optimal efficacy of the treatment.

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53 - PATIENT'S SATISFACTION AND LONG TERM CLINICAL RESULTS AFTER SINGLE INCISION MINI-SLING PROCEDURE FOR URINARY STRESS INCONTINENCE IN YOUNG PATIENTS

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INTRODUCTION AND AIM OF THE STUDY

Evaluation of long-term satisfaction and clinical outcomes following Single Incision Mini-sling (SIMS) insertion for urinary incontinence treatment in women under 40 years of age.

Primary objective: To demonstrate the long-term efficacy of SIMS surgery for treating stress urinary incontinence (SUI). Secondary objective: To characterize the efficacy of SIMS surgery across different young population segments: women with pure SUI (SUI) versus women with mixed urinary incontinence (MUI), and the impact of pregnancy and childbirth on surgical outcomes.

MATERIALS AND METHODS

Study Design: This is a retrospective cohort study including all women under 40 who underwent SIMS surgery for SUI from November 2010 to June 2017, without pelvic organ prolapse. Women who underwent additional procedures were excluded from the study. Data was collected from patient files, and a telephone interview.

Surgical success was determined subjectively (patient symptoms during clinic visits and telephone questionnaire) and objectively (patient examination at the last urogynecology clinic follow-up). Failure was defined as the need for repeat surgery for urinary incontinence. The study was conducted in two stages:

First stage: Data extraction from computerized patient files. Information included demographic data, symptoms of SUI, urgency symptoms, and urge incontinence. Pre-operative examination including POPQ and Cough Stress Test (CST). Pre-operative diagnosis, type of anesthesia, type of SIMS (MiniArc or Ophira) intra-operative and post-operative complications, late complications. Pregnancies and the outcome. Examination at the last clinic follow-up including POPQ and CST, whether there was repeat surgery for urinary incontinence or surgery due to complications.

Second stage: Telephone questionnaire conducted by a resident as part of post-operative medical follow-up to assess patient satisfaction with the surgery, its effectiveness, and if there were any surgical complications.

Statistical Methods: Data was collected in an Excel spreadsheet and processed using SPSS software.

RESULTS

The study group included 92 women who underwent surgery under the age of 40 without additional surgery. The average age of women at the time of surgery was 38.7±3.7 years. Women were divided into two groups based on their main complaint before surgery: Seventy-two women (78%) with pure stress urinary incontinence (SUI) and 20 women (22%) with mixed urinary incontinence (MUI). Telephone interviews were conducted an average of 9 years after surgery (range, 7.5-10.5 years) and 65 women (70%) responded to the telephone questionnaire.

The cure rate in the SUI group was 85%, compared to 54% in the MUI group. Recurrence of stress urinary incontinence, mostly mild, was found in 17 women (26%) (11 women from the SUI group and 6 from the MUI group). Of these 17, 6 women (35%) had recurrence within the first two years, and 11 women (65%) over 5 years after surgery. Only 5 out of the 17 women (5.5%) were defined as failures and required repeat surgery (4 from the MUI group compared to one from the SUI group). In the telephone questionnaire, satisfaction rates with surgical results were high, 7.5 (±2.8) in the SUI group compared to 6.6 (±2.9) in the MUI group.

There were no complications during surgery, and no post-operative complications were reported, with no dyspareunia, no mesh erosion in this group, except for one patient (1%) with left groin pain, presumably caused by tension in the left arm of the mesh. The mesh was removed and replaced with TVT Retro-pubic with good effect.

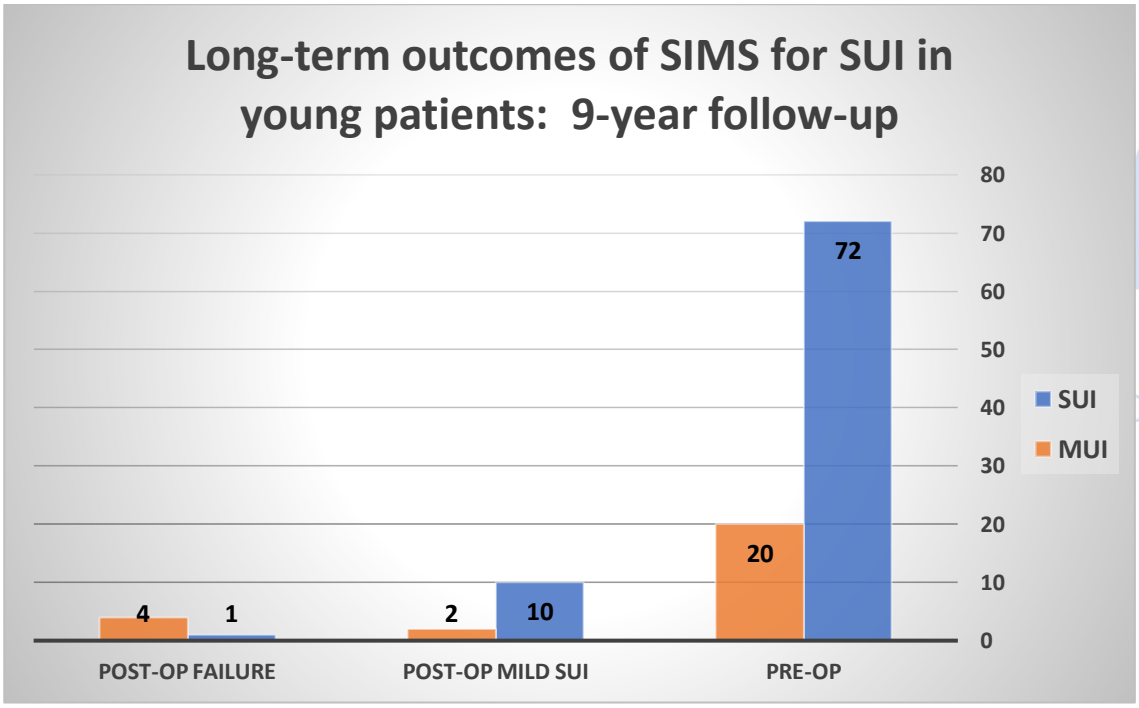
Pregnancies: eight women (9%) became pregnant after surgery. Of these, 6 women delivered by cesarean section (CS), and two women had vaginal deliveries. Seven women (88%) had no recurrence of urinary incontinence after delivery. One patient who had CS reported recurrence of SUI. The number of women who became pregnant after surgery is too small to draw conclusions regarding the impact of delivery method.

INTERPRETATION OF RESULTS

SIMS surgery in young, active women, some of whom gave birth after the surgery, was found to be effective in over 80% of women in long-term follow-up, **with an average follow-up of 9 years**. Failure and need for repeat surgery were found in only about 5%. Success rates in women with mixed incontinence symptoms were lower, mainly due to continued complaints of urgency and urge incontinence. Pregnancy and childbirth did not affect the results, and the complication rate in this group was very low.

CONCLUSIONS

SIMS surgery is safe and effective for many years in young population and also allows for pregnancies after the surgery



Single Incision Mini-sling (SIMS)

Pure stress urinary incontinence (SUI)

Mixed urinary incontinence (MUI)

54 - MUSCULO-FASCIAL TRAUMA ANALYSIS AT LEVEL III IN ASYMPTOMATIC WOMEN AFTER THE FIRST VAGINAL DELIVERY

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INTRODUCTION AND AIM OF THE STUDY

Finding out the significance of levator ani muscle trauma in asymptomatic primiparas. Analysis of the condition of the levator ani muscle (MLA) and its parts, the puborectalis muscle (PRM) and the pubovisceral muscle complex (PMC) with other morphological parameters in anatomically and functionally asymptomatic women after the first vaginal delivery compared to nulliparous women.

MATERIALS AND METHODS

This is a retrospective, cohort study on the effect of the first, spontaneous vaginal delivery on the morphology and function of the pelvic floor. The participants underwent a urogynecological examination including POP-Q and high-resolution 3T MRI examination, slicing 2 mm, gap 0. The examination was performed: a) at rest, in the axial, sagittal and coronal planes from the top of the hip bones to the ischial tubercle, b) dynamically during the maximal Valsalva maneuver in the mediosagittal plane. The examination was carried out 6-12 months after the first vaginal birth, the nulliparous cohort was used as a control group. The morphology of the muscle-fascial complex was evaluated according to the deLancey methodology, and the following were examined: the diameter of the urogenital hiatus (UGH), the urogenital angle (UGA) and the diameter of the genital hiatus (GH). Mann-Whitney and chi-square tests were used for statistical evaluation.

RESULTS

107 women were enrolled, 64 nulliparas, 43 primiparas. The average age for nulliparas was 28.5 ± 1.9 years, SD 3.94, for primiparas 30.7± 2.2, SD 3.62. The average BMI was 22.8±1.8, SD 3.6 for nulliparas, 25.5± 2.4, SD 3.85 for primiparas. Primiparas were significantly older, with higher BMI (.001), worse values of POP-Q parameters (.001) except tvl (.782). Anchorage (enthesis) of the PRM to the posterior surface of pubic bone in nulliparous 9.94 ±2.54, SD 5.1 was non-significantly (.079) lower than in primiparous 11.7 ±3.8 SD 6.1. PCM anchorage in nulliparous 9.2 ±2.O SD 3.9 was significantly (≤.001) lower than in primiparous 13.1 ±3.4 SD 5.5. MLA trauma was not proven in nulliparous women, in primiparous women it was bilateral in 17 (39.5%) cases, in 17 cases (39.5%) on the right. 25 (58.2%) women had minor trauma, 9 (18.6%) had major trauma. Fascial trauma (FD) was not observed in nulliparous women, in primiparous women only 1x (2.3%) as a paravaginal defect on the right, 1x (2.3%) on the left and in 2 women (4.7%) as RV septal defect. UGH values at rest were 47.39±4.1 SD 8.1 in nulliparous, 49.1±4.1 SD 6.6 in primiparous (.188), UGA at rest 28.4±4.1 SD 7.9 in nulliparous, 26.4±5.1, SD 8.2 in primiparous (.284), GH at rest in nulliparous was 20.6±2.16, SD 4.3, in Valsalva 26.1±2.0, SD 4 .1 (≤.001) while for primiparous at rest 23.9±2.6, SD 4.2 and during Valsalva 30.1±2.8, SD 4.5 (≤.001).

INTERPRETATION OF RESULTS

A detailed analysis showed that even in clinically completely asymptomatic women after the first vaginal delivery, a relatively high percentage of severe changes occur, especially in the muscular part of the pelvic floor. A fascial defect occurs less frequently than a muscle trauma.

CONCLUSIONS

The results yet need to be researched. The result of less frequent fascial damage is probably related to the higher resistance of connective tissue. Display of the tissue damage in the future in these patients is also predictable.

55 - DOES THE MID-URETHRAL SLING INFLUENCE THE RESULTS OF SACRAL NEUROMODULATION

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INTRODUCTION AND AIM OF THE STUDY

The study aimed to evaluate the impact of a correctly placed mid-urethral sling on the effectiveness of sacral neuromodulation. Specifically, the objective was to assess whether the presence of an appropriately positioned sling influences outcomes such as voiding frequency, urgency episodes, and residual urine volume in patients undergoing sacral neuromodulation.

MATERIALS AND METHODS

This prospective study was conducted between March 2021 and January 2024. A total of 60 patients were enrolled, consisting of 30 patients with a previously placed mid-urethral sling and 30 without. Eligibility for sacral neuromodulation required the sling to be correctly positioned, maintaining a distance of at least 3 mm from the urethra, located in the distal part of the urethra. and no worsening of symptoms after sling placement. Among the 30 patients without a sling, 8 had post-void residual (PVR) urine, 20 had urgency urinary incontinence (UUI), and 2 had urgency without incontinence. In the group of 30 patients with a sling, 6 had PVR, 22 had UUI, and 4 had urgency without incontinence. The primary endpoint for proceeding to the second stage of neuromodulation was a 50% reduction in voiding frequency or a reduction to 8 or fewer voids per day, as well as a 50% reduction in PVR volume or reduction below 100 ml.

RESULTS

In the group without a sling, 70% of patients qualified for the second stage of neuromodulation compared to 60% in the group with a sling ($p > 0.05$). Among patients who proceeded to the second stage, the results were as follows:

- Daily voiding frequency: 9.2 ± 3.6 (sling) vs. 9.4 ± 3.2 (no sling)
- Urgency episodes: 3.3 ± 3.2 (sling) vs. 2.1 ± 3.0 (no sling)
- Voiding volume: 242 ± 183 ml (sling) vs. 217 ± 197 ml (no sling)

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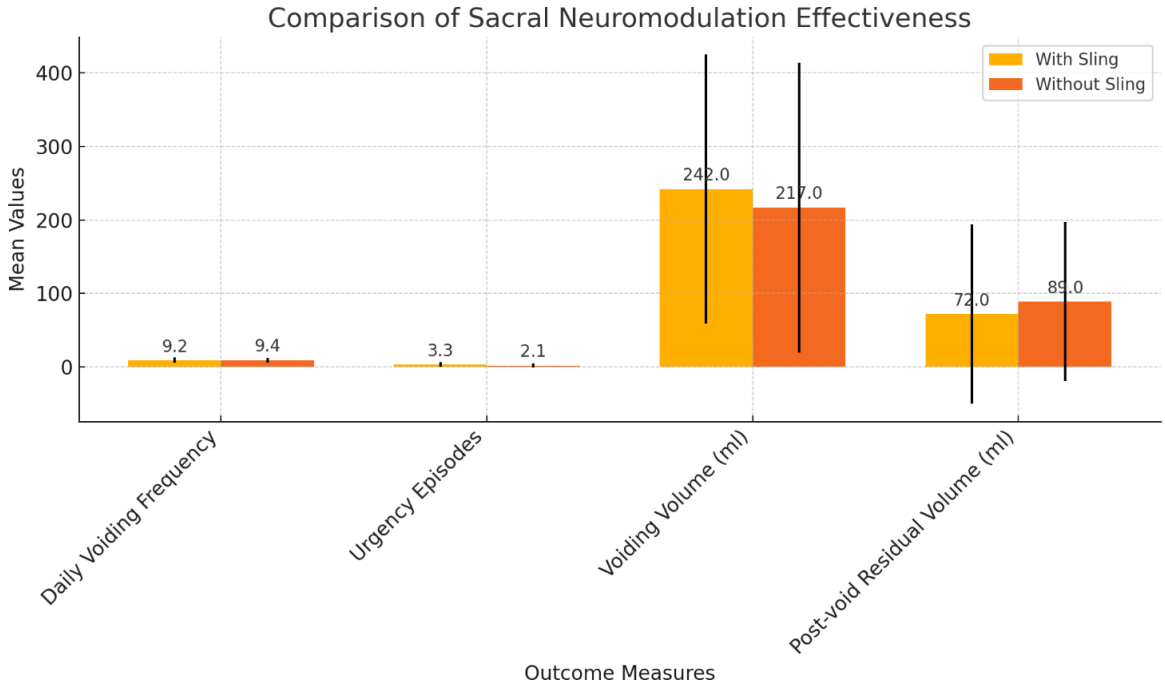
- Post-void residual volume: 72 ± 122 ml (sling) vs. 89 ± 108 ml (no sling)



INTERPRETATION OF RESULTS

The study found a slightly lower, though not statistically significant, percentage of patients with a mid-urethral sling qualifying for the second stage of sacral neuromodulation. After six months following the second stage, there were no significant differences between the groups in terms of daily voiding frequency, urgency episodes, UUI episodes, or PVR volume.

CONCLUSIONS

Preliminary findings suggest that sacral neuromodulation can be equally effective in patients with a correctly placed mid-urethral sling compared to those without a sling. There were no significant differences in treatment outcomes such as daily voiding frequency, urgency episodes, or residual urine volume between the two groups. However, further studies involving a larger cohort of patients are necessary to validate these results. Importantly, patients with a mid-urethral sling should not be disqualified from sacral neuromodulation, as the proper placement of the sling does not appear to negatively affect the efficacy of the treatment.

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56 - RISK FACTORS FOR FEMALE VOIDING DYSFUNCTION: A RETROSPECTIVE COHORT STUDY

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INTRODUCTION AND AIM OF THE STUDY

Voiding dysfunction (VD) is defined by the International Continence Society (ICS) as "abnormally slow and/or incomplete micturition, characterized by abnormally slow urine flow rates and/or abnormally high post-void residuals, ideally confirmed through repeated measurements to verify abnormalities in bladder emptying" (1). Unfortunately, patients with VD may present with a wide range of symptoms, and there are no pathognomonic physical examination findings to definitively diagnose the condition. This study aimed to identify and evaluate the factors associated with VD in female patients presenting with lower urinary tract symptoms.

MATERIALS AND METHODS

A retrospective cohort study was performed by reviewing the medical records of 918 patients who underwent a single voiding cycle ambulatory urodynamic evaluation at a university hospital-based urogynecology clinic for various lower urinary tract symptoms between 2007 and 2023. Ethical approval was waived by the IRB in view of the retrospective nature of the study and all the procedures being performed were part of the routine care. Patients were excluded if they had a cystometric capacity of less than 150 mL (n=107), incomplete data (n=90), or a history of anti-incontinence surgery (n=72). The collected data included demographic characteristics, physical examination findings (POP-Q staging and cough stress test without reduction), and urodynamic monitoring results (with reduction in patients with advanced-stage POP). VD was defined using clinical criteria, specifically an elevated post-void residual (PVR) volume of ≥100 mL and/or a reduced urinary flow rate (Qmax < 15 mL/s) as measured by uroflowmetry on at least two separate occasions. Continuous variables were compared between groups using Student's t-test, while categorical variables were analyzed using the chi-square test. Binary logistic regression analyses were conducted to identify factors independently associated with VD. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 649 patients were included in the final analysis, with VD present in 11% of cases (n=71). The mean age of patients with VD was significantly higher than those without VD (59.1 ± 12 years vs. 54.2 ± 16.4 years; p=0.014). Furthermore, a significantly greater proportion of women in the VD group were post-menopausal (73.2% vs. 58.5%; p=0.017) (Table 1). The most common symptom associated with VD was incomplete bladder emptying, reported by 78.3% of patients. On physical examination, a significantly higher percentage of patients without VD had a positive cough stress test result (60.8% vs. 26.8%; p<0.001). Advanced-stage POP (stages III-IV) was more prevalent in the VD group (44.9% vs. 22.7%; p<0.001). Additionally, only points C and D were significantly lower (mean -2.1 ± 4.2 cm vs. -3.6 ± 3.4 cm; p=0.010 and mean -3.1 ± 4.2 cm vs. -4.5 ± 4.8 cm; p=0.038, respectively) in the VD group compared to the non-VD group (Table 2).

Binary logistic regression analysis identified menopausal status, a negative cough stress test, the position of point C, and advanced-stage POP as significant predictors of VD.

INTERPRETATION OF RESULTS

Advanced-stage POP can lead to significant alterations in pelvic floor anatomy, adversely affecting voiding dynamics. Although the current study used diagnostic criteria for VD similar to those in previous research, the findings have varied.

Chae et al. (2) identified significant positive correlations between VD and anterior vaginal wall prolapse in patients with advanced-stage cystocele, though their study did not include a multivariate regression analysis. In contrast, Wong et al. (3) found a linear and independent association between PVR urine volume, menopausal status, gravidity, history of vaginal surgery, and the anatomical position of the apex after multivariate analysis. However, they did not observe any association between PVR and the position of the anterior vaginal wall. In the present study, consistent with the findings of Wong et al., menopausal status and the position of Point C were identified as independent predictors of VD.

While advanced-stage apical prolapse is often accompanied by varying degrees of anterior vaginal wall prolapse, it appears that apical prolapse plays a more significant role in the development of VD compared to anterior vaginal wall prolapse.

CONCLUSIONS

Voiding dysfunction is not uncommon in patients presenting with lower urinary tract complaints. During the menopausal period, particularly when advanced stage POP with prominent apical prolapse is present, it is crucial to assess the patient's voiding function.

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Table 1. Demographic characteristics of the study population

Parameter	Voiding Dysfunction (+) (n=71)	Voiding Dysfunction (-) (n=578)	P value
Age (year)	59.1 ± 12	54.2 ± 16.4	0.014
Body mass index (kg/m²)	29.3 ± 4.8	30.4 ± 14.5	0.565
Gravidity	4.7 ± 3	4.2 ± 2.3	0.178
Parity	3 ± 1.5	2.8 ± 1.6	0.182
Post-menopausal n (%)	52 (73.2)	338 (58.5)	0.017
Diabetes n (%)	12 (16.9)	122 (21.1)	0.401
Hypertension n (%)	30 (42.3)	209 (36.2)	0.307
Smoker n (%)	13 (18.3)	113 (19.8)	0.822

Table 2. Physical examination and ambulatory urodynamic findings of the study population

Parameter	Voiding Dysfunction (+) (n=71)	Voiding Dysfunction (-) (n=578)	P value
Positive cough stress test n (%)	19 (26.8)	350 (60.5)	<0.001
Advanced stage (III-IV) POP n (%)	31 (44)	130 (22.5)	<0.001
Aa (cm)	0 ± 2.1	-0.5 ± 1.7	0.118
Ba (cm)	0.3 ± 2.4	-0.2 ± 1.9	0.095
C (cm)	-2.1 ± 4.2	-3.6 ± 3.4	0.010
D (cm)	-3.1 ± 4.2	-4.5 ± 4.8	0.038
Ap (cm)	-1 ± 1.9	-1.1 ± 1.4	0.690
Bp (cm)	-1 ± 1.7	-1 ± 1.6	0.359
TVL (cm)	7.4 ± 1	7.9 ± 4.8	0.395
Gh (cm)	3.6 ± 1.2	3.6 ± 1.3	0.983
Pb (cm)	3.6 ± 1	3.7 ± 2	0.636
Cystometric capacity (mL)	407.1 ± 199.4	446.1 ± 178.6	0.087
Qmax (mL/sn)	15.3 ± 8.9	30.1 ± 14.2	<0.001
PdetQmax (cmH_2O)	33.6 ± 21.4	38.1 ± 31.9	0.382
PVR (mL)	133.4 ± 77.9	47.6 ± 29.3	<0.001

Qmax: maximal urine flow rate; PdetQmax: detrusor pressure at maximal urine flow rate; PVR: postvoid residual urine volume

Table 3. Binary logistic regression analysis results of factors affecting VD

Parameter	OR	95% C.I.	P value
Age	1.013	0.999-1.027	0.074
Menopausal status	1.943	1.120-3.371	0.018
Positive cough stress test	0.236	0.136-0.409	<0.001
Advanced stage POP	2.774	1.660-4.633	<0.001
Point C	1.116	1.015-1.226	0.023
Point D	1.075	1.029-1.179	0.945

EUGA ASSOCIATION

57 - EFFECTS OF PELVIC ORGAN PROLAPSE REPAIR WITH UTERUS PRESERVATION ON THE OCCURRENCE OF CERVICAL ELONGATION

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INTRODUCTION AND AIM OF THE STUDY

Uterine preservation methods for Pelvic Organ Prolapse (POP) repair have been developed in recent years with descriptions of cervical elongation after the repair. Elongated cervix is a main risk for recurrent uterine prolapse. The aim of the study was to evaluate the prevalence and risk factors of cervical elongation post-uterine preservation vaginal surgery with mesh, and the overall prevalence of cervical elongation in a cohort of patients with POP.

MATERIALS AND METHODS

This retrospective study included all patients who underwent vaginal POP repair with mesh and uterine preservation during 6 years. Cervical elongation was defined clinically by a length of >4 cm between points C and D by POP-Q.

Women with cervical elongation were divided into two groups; elongation before the repair of prolapse (pre-op group) and those who developed it after the prolapse operation (post-op group). For both group, data included demographic features, POPQ examination before and after surgery, type of surgery and follow-up. For the post-op group, data included in addition: symptoms of elongation, surgery for amputation of cervix, and results.

RESULTS

Group selection is illustrated in Figure 1. Overall rate of cervical elongation was 16% (59 of 363 patients), with similar rates of 8.5% vs. 7.7%, in the pre- and post-op groups.

The prolapsing compartment in the examination before the initial prolapse repair surgery with mesh was significantly different between the groups, with higher percentage of isolated central prolapse (47%) in the pre-op elongation group and higher percentage (46% vs. 18%) of cystocele in the post-op elongation group (Figure 2).

The risk of developing symptomatic cervical elongation after POP repair, requiring surgery, was 4%. The average time between the prolapse repair and partial trachelectomy was 720 days Median time for the procedure was 23min with no complications. Average length of cervix removed was 3cm with no special characteristics.

INTERPRETATION OF RESULTS

Cervical elongation developed at similar rates (8.5% vs. 7.7%) as part of POP and after POP repair which suggest that the elongation is probably not the result of the repair. About half of patients were symptomatic and had partial cervical amputation which is a short and safe procedure

CONCLUSIONS

The similar occurrence rate of cervical elongation before and after POP repair, and the safety of the partial trachelectomy, further support the uterine preservation approach for POP repair**.** Patients should be informed about the risk of 4% of developing symptomatic cervical elongation when they choose to preserve the uterus.

Figure 1. Study population out of all prolapse repair operations performed between 2011 and 2017

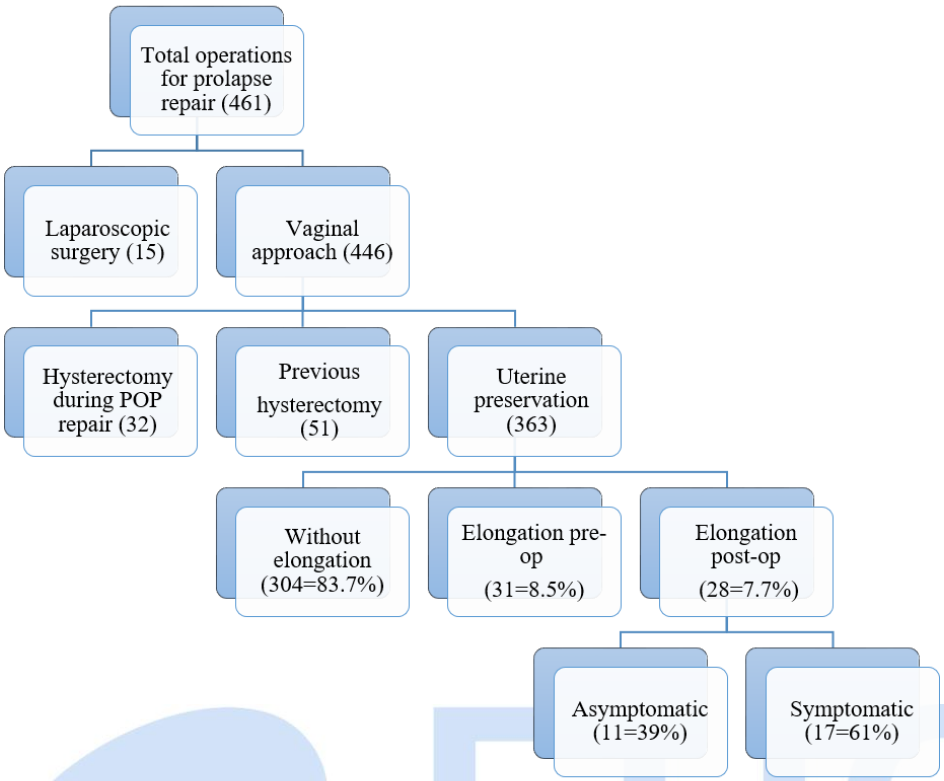
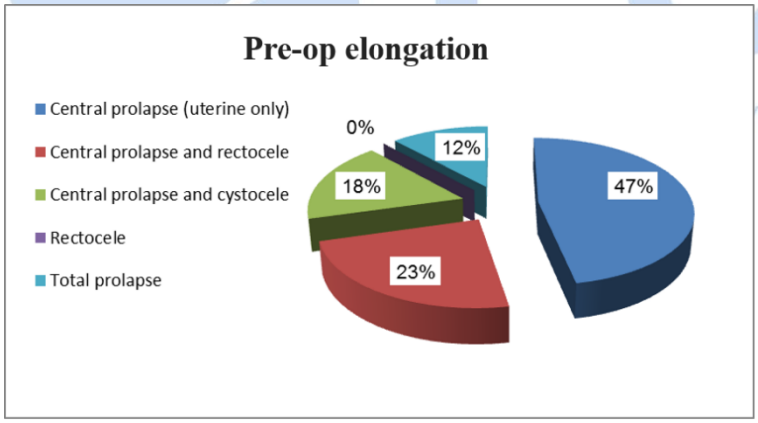
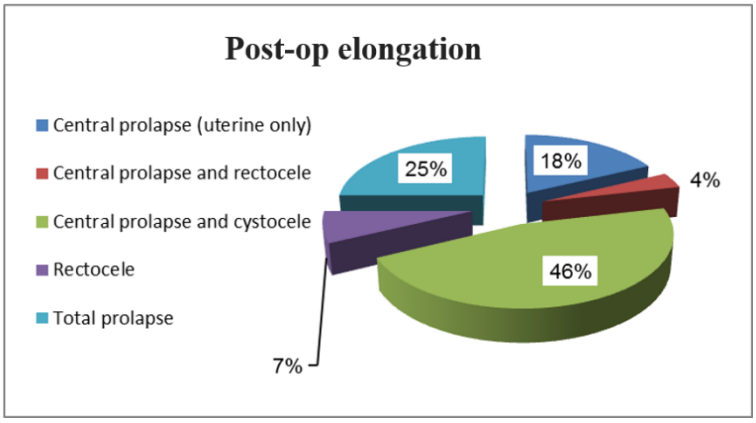


Figure 2. Distribution of types of POP in both groups





58 - DOES SUCCESSFUL TREATMENT OF PELVIC ORGAN PROLAPSE (POP) WITH PROMONTOFIXATION IMPROVE SEXUAL QUALITY OF LIFE ACROSS ALL DOMAINS?

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common health problem associated with a significant impairment in quality of life, including its sexual aspects. The treatment of pelvic organ prolapse should include both anatomical correction and functional improvement, aimed at relieving the symptoms reported by the patients prior surgery. The results of studies assessing the quality of sexual life in women who have undergone surgery for pelvic organ prolapse are inconclusive. Sacral colpopexy (SCP) is considered the gold standard treatment for pelvic organ prolapse associated with apical compartment damage, providing long-term effects .The aim of our study was to assess the quality of sexual life in women with pelvic organ prolapse who underwent laparoscopic cervico/hysterosacropexy.

MATERIALS AND METHODS

The study included 145 women who underwent LSC cervico/hysterosacropexy between 2018 and 2023 in a tertiary uroginecological center. Among all patients, 101 (69,6%) were sexually active, while 44 (30,3%) were inactive The anatomical condition for qualification for surgical treatment was the descent of pelvic organs in the apical compartment or a complex defect involving the apical compartment at least at the ≥ 2 stage on the POPQ scale. To evaluate the presence and intensity of symptoms associated with pelvic organ prolapse, the validated Pelvic Floor Distress Inventory short form (PFDI-20) questionnaire was utilized. The impact of pelvic floor dysfunction on quality of life was assessed using the Pelvic Floor Impact Questionnaire Short Form (PFIQ-7). Sexual function was assessed with the Prolapse/Urinary Incontinence Sexual Questionnaire, IUGA Revised (PISQ-IR). Objective results of the anatomical correction and the evaluation of quality of life were assessed 9-12 months after the surgery

RESULTS

An objective cure rate was observed in 92.5% of patients. In the group of sexually active women, a statistically significant improvement in the quality of sexual life was observed in most domains, including global quality and condition impact, CI (feeling sexually inferior, embarrassed, or angry during sexual activity). Anatomical correction of the pelvic organs prolapse significantly reduced fear and shame during sexual activity (condition specific, CS) and improved scores in the arousal/orgasm domain . There were no differences in the levels of sexual interest and desire before and after surgery (desire, DA) and in the partner-related domain. In the group of sexually inactive patients, we observed a significant improvement in the domains related to feelings of sexual inferiority, embarrasement, anger, fear and shame associated with sexual activity (condition impact, CI; condition specific, CS).
Improvement in quality of sexual life significantly correlated with the results of the PFIQ-7 (Pelvic Floor Impact Questionnaire-7) and PFDI-20 (Pelvic Floor Distress Inventory short form) questionnaire

INTERPRETATION OF RESULTS

The study results indicate that the improvement in sexual quality of life is primarily due to a significant reduction in symptoms related to feelings of insecurity, anxiety, shame, and low self-esteem. However, the relationships based on the partner's perception of the woman remain unchanged.

CONCLUSIONS

The most important change that effective surgical treatment can bring is a shift in how patients perceive themselves

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59 - NOVEL USE OF THE BAKRI BALLOON TO MANAGE VENOUS HAEMORRHAGE AT VAGINAL SURGERY.

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INTRODUCTION AND AIM OF THE STUDY

Sacrospinous ligament fixation (SSLF) is a well-established surgical procedure for pelvic organ prolapse. Like most vaginal surgery, it carries a risk of vascular injury, a potentially life-threatening complication. Traditional management involves direct vessel repair, often requiring laparotomy.

There is a small body of literature describing the use of a Bakri balloon, typically employed in obstetric hemorrhage, for managing pelvic floor hemorrhage [1], [2]. In the specific case of vascular injury during SSLF, the literature outlines several management techniques, including laparotomy, CT angiography with embolisation, compression with vaginal packing, and one case in which a hydrostatic balloon was used [3].

We present a case where a Bakri balloon was successfully utilised to tamponade a significant vascular injury during SSLF, demonstrating its potential as an effective alternative to more invasive procedures.

MATERIALS AND METHODS

A 75-year-old woman with a history of grade 2 uterovaginal prolapse underwent an elective vaginal hysterectomy with SSLF. The vaginal hysterectomy was performed without complication, however, during placement of a fixation suture into the right sacrospinous ligament using a Miya hook (performed under direct vision) a significant venous haemorrhage occurred". Initial attempts to repair the injury vaginally by a vascular surgeon were unsuccessful. In consultation with the consultant gyanecologist present, adjunctive haemostatic agents were applied to the pararectal space, and a Bakri balloon was inserted and inflated to 300 mL to achieve haemostasis. The patient had a total measured blood loss of 2.4L intraoperatively and received 4 units of packed red cells and 2 units of fresh frozen plasma, followed by ICU admission. A CT angiogram was performed postoperatively to evaluate the effectiveness of the intervention.

RESULTS

The Bakri balloon successfully controlled the haemorrhage without the need for laparotomy. The CT angiogram performed 24 hours postoperatively showed no evidence of active bleeding or vascular injury. The balloon was deflated 48 hours later, and the patient showed no signs of recurrent bleeding or other complications. Postoperative imaging confirmed the absence of an organised haematoma or significant fluid collection, validating the efficacy of the Bakri balloon in managing this vascular injury.

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INTERPRETATION OF RESULTS

The use of the Bakri balloon in this context highlights its versatility beyond obstetrics, offering a minimally invasive option for controlling significant pelvic bleeding during gynecological surgeries. Our approach aligns with a precedent from the literature, where a hydrostatic balloon was successfully employed to control major hemorrhage in the pararectal space [4]. Similarly, the Bakri balloon provided effective tamponade of the vascular injury in our case, avoiding the need for a more invasive laparotomy. This case further supports the consideration of the Bakri balloon as a first-line intervention in similar scenarios, potentially reducing the morbidity associated with extensive surgical procedures.

CONCLUSIONS

This case demonstrates the successful use of the Bakri balloon to manage a major vascular injury during sacrospinous ligament fixation, avoiding the need for laparotomy and associated morbidity. The Bakri balloon is a valuable tool in the gynecological surgeon's armamentarium for managing intraoperative haemorrhage, perhaps warranting further exploration in similar clinical settings.

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60 - Laparoscopic Sacrocolpopexy outcomes in symptomatic anterior prolapse with a concomitant stage 1 apical defect

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INTRODUCTION AND AIM OF THE STUDY

Symptomatic pelvic organ prolapse (POP) is an intimate, frequent, and bothersome problem affecting up to 65% of women and 20% of them opt for a surgical correction [1]. The presence of an uncomfortable bulge is the commonest symptoms associated with POP. However, it is also associated with voiding, defecatory and / or sexual dysfunctions and pelvic pain. [1]. Based on the Pelvic Organ Prolapse Quantification (POP-Q) system, there are four POP stages subcategorized depending on severity of the affected compartment(s) (anterior, apical or posterior).

The majority of patients with a symptomatic POP have, at least, a stage 2 apical prolapse (i.e., C ≥ -1cm on maximum Valsalva) and sacrocolpopexy is the gold standard surgical management. Stages 2-4 apical POP have commonly been chosen to evaluate sacrocolpopexy outcomes [1]. However, it has been suggested that point C has the optimal sensitivity and specificity to predict symptoms at the -5 and -5.5 cut-offs for non-hysterectomized and hysterectomized patients respectively [2], both cut-offs are within the POP-Q stage 1 remits. Currently, there is evidence supporting apical defects in the development of anterior compartment prolapse. However, a definitive "cut-off" point for apical prolapse that would necessitate surgical correction is yet to be clearly defined. To our knowledge, the use of laparoscopic sacrocolpopexy (LSC) in the management of patients presenting with symptomatic grade 1 apical prolapse has not been previously studied. Therefore, in this study, we compared the outcome of this cohort of patients to those of patients with apical prolapse stage 3 or higher.

MATERIALS AND METHODS

This was a retrospective cohort study conducted at a tertiary university-affiliated urogynaecology centre. Participants were selected from the cohort of patients who underwent LSC between January 1, 2015, and January 31, 2023. The study cohort comprised two different groups. Group 1: patients with apical compartment prolapse stage 1 (C < -1) and anterior compartment prolapse stage ≥2 (Ba ≥ -1), and Group 2: consisted of patients with apical compartment prolapse stage ≥3 (C ≥ 1) and anterior compartment prolapse stage ≥2 (Ba ≥ -1). All LSC procedures were performed by one of four specialized urogynecologists using consistent surgical techniques and materials. Data on demographics, medical history, history of abdominal or gynaecological surgeries, prior reconstructive POP surgery, obstetric history, urinary and bowel symptoms, POP-Q staging, hospital stay, and patient-reported outcomes were available from the hospital electronic records. Perioperative complications were classified according to the Clavien-Dindo system. POP-Q staging, mesh-related complications, reoperations, and patient reported quality of life (QoL) on PGI-I are routinely collected in our centre at 12 months postoperative. The study protocol received approval from the relevant ethics committee, and all patients provided written informed consent for both the surgical procedure and the use of their data for research purposes.

RESULTS

We analysed 308 patients who met the selected criteria. Of these, 82 (26.6%) and 226 (73.4%) were included in the apical stage 1 and stage ≥3 groups respectively. There were no significant differences between the groups in terms of age, BMI, parity, or previous POP surgeries. However, a significant difference was observed in the number of patients who had previous gynaecologic surgery (49 (59.8%) in Group 1 vs. 99 (43.8%) in Group 2 (p=0.01). Group 1 had a significantly shorter operative time (median 90 [IQR=30.0] vs. 120 [IQR=45.0] minutes; p<0.001) and lower estimated blood loss (median 100 [IQR=50.0] vs. 150 [IQR=100.0] ml; p<0.001). There were a total of 17 bladder injuries, 9 (11.0%)

and 8 (3.5%) in Group 1 and Group 2 respectively (p=0.02). At 12-month follow-up, there were no statistically significant differences in objective compartmental failure rates. Additionally, the rates of subjective failure and the number of reoperations for POP were comparable in both cohorts. Subjective improvement was high in both groups, with PGI-I scores of 1 or 2 reported by 90.5% of patients in stage 1 and 96.6% in stage ≥3 groups (p=0.06). Further details on follow-up data can be found in Table 1.

	Group 1 N = 74	**Group 2 N = 205**	**p**
Postoperative complications related to mesh C1-C7 [N (%)]	0 (0)	4 (1.9)	0.5762 *
Failure in apical compartment Point C ≥ -TVL/2 [N (%)]	0 (0)	1 (0.5)	1.0000 *
Failure in anterior compartment Point Ba ≥ -1 [N (%)]	4 (5.4)	10 (4.9)	1.0000 *
Failure in anterior compartment Point Ba ≥ 0 [N (%)]	1 (1.35)	2 (1.0)	1.0000 *
Failure in posterior compartment Point Bp ≥ -1 [N (%)]	7 (9.5)	18 (8.8)	0.8609 **
Failure in posterior compartment Point Bp ≥ 0 [N (%)]	2 (2.7)	9 (4.4)	0.7331 *
Bulge	2 (2.7)	5 (2.4)	1.0000 *
Reoperation due to POP	1 (1.35)	1 (0.5)	0.4608 *
Reoperation due to mesh complication	0 (0)	2 (1.0)	1.0000 *

* Fisher´s Exact test ; ** Chi-square test

INTERPRETATION OF RESULTS

In this study, we observed very good objective and subjective outcomes following LSC in both comparison groups at one-year follow-up. Additionally, in group 1, there were no reported mesh-related complications, and reoperation for POP was required in only one case (1.35%). Furthermore, fixation of apical defect and cystocele repair by means of LSC markedly reduced the risk of recurrence of anterior defect compared to reported 31.3% and 52.2% recurrence rates following transobturator transvaginal mesh and traditional anterior repair [3]. Currently, data indicate that the threshold for the development of bulge symptoms is shifting towards lower values of point C. The long-known association between apical fixation and the development of anterior compartment prolapse also remains relevant. The presented data suggest that LSC does not have to be only limited to patients with a predominant stage ≥2 apical prolapse because patients with anterior compartment prolapse associated with lower grades of apical defects could also benefit from thew procedure.

CONCLUSIONS

Laparoscopic sacrocolpopexy is a feasible and beneficial to patients presenting with symptomatic anterior prolapse associated with a stage 1 apical defect.

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61 - A MULTICENTRE RANDOMISED SHAM-CONTROLLED TRIAL OF ERBIUM: YAG LASER FOR TREATMENT OF MILD/MODERATE STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) affects approximately 25-45% of women in their lifetime and can have detrimental physical, psychological and social effects. First line treatment for SUI is with conservative measures including life- style changes, pelvic floor physiotherapy and pessaries. When these methods are not effective surgical methods are offered. Increasingly, patients are wanting less invasive treatments and are prepared to accept lower efficacy for shorter recovery and less morbidity.

Newer minimally invasive therapies such as vaginal laser treatments have gained popularity with little strong evidence to support their widespread adoption. The two common types of lasers used in gynaecology are CO2 and Erbium: YAG Smooth® (Er:YAG) laser. The CO2 laser has a micro- ablative effect on tissue by creating microscopic columns of thermal injury leading to fibroblast infiltration and collagen deposition. The Er:YAG laser has a non-ablative effect on tissues (Smooth® mode) and works through gradual controlled heating without tissue damage, resulting in tissue remodelling by collagen contraction, subsequent neocollagenesis, neovascularisation and infiltration of growth factors. When lasers are used to treat SUI, it is believed to strengthen the connective tissue of the sub-urethral hammock and surrounding supporting fascia of the paracolpium.

To date three randomised control trials (RCT) have evaluated the effect of the Er:YAG non- ablative Smooth® laser for treating SUI. Two studies demonstrated improvement in SUI. O'Reilly et al. observed participants with mild and moderate SUI benefited from laser treatment to a greater degree than those with severe SUI1. A separate RCT did not observe a statistically significant improvement in SUI in patients treated with laser however, it should be noted that the majority of participants in this study had moderate to severe SUI2. An observational study by Kuszka et al. found the Er:YAG laser only improved symptoms in patients with mild to moderate SUI3.

We therefore aim to assess the efficacy of Er:YAG laser treatment confined to patients with only mild to moderate SUI. This study is the first fully powered multicentre, randomised sham control trial to assess Er:YAG Smooth® laser in the treatment of mild to moderate SUI.

MATERIALS AND METHODS

We performed a multicentre, randomised, sham controlled, single blinded study comparing Er:YAG laser versus sham in women with mild and moderate SUI (defined as 1 hour pad test <20g). All participants had urodynamically proven stress urinary incontinence, were aged over 18 years, and had failed or declined conservative treatments. Ethical approval was obtained (REC19/WM/0135) and the trial registered with Clinical trials.gov (NCT03996070).

Enrolled participants were randomised with a 2:1 ratio (active: sham) using computer generated block randomisation. Both groups were given three outpatient laser treatment sessions, lasting 20 minutes every 4-8 weeks. The treatment group were treated using the IncontiLase® treatment protocol (3 passes IncontiLase® 1, 6 passes IncontiLase® 2 and 3 passes IncontiLase® 3) with the Er:YAG non ablative Smooth® laser (Fotona, Slovenia). The sham group received similar treatments at similar time frames, but the handpiece had a metal shutter inserted to prevent any energy being transmitted through to the tissues.

Participants were assessed at baseline and 6 months post final treatment using both objective and subjective criteria. The primary outcome measure was the change in 1 hour pad test measured at 6 months follow up, with success defined (per FDA guidelines) as greater than 50% reduction in weight compared with baseline. Secondary outcomes included the validated International Consultation on Incontinence Questionnaire – Urinary Incontinence Short Form (ICIQ-UI SF),

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Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire (PISQ-12), cough test standing and supine and visual analogue score (VAS) for pain.

The sample size was calculated on results from previous studies assuming a cure rate of 70% in the treatment and 36% in the sham groups respectively1,2. This gave a sample size of 72 to provide a study power of 0.8 and an alpha of 0.05. We expected a 10% drop out rate (based on previous studies) giving a total study population of 79. Recruitment was across three sites and was halted once sufficient number of patients with 6 month follow up data had been recruited. Mann Whitney U test was used to compare groups using Jamovi software (version 2.5).

RESULTS

79 participants were enrolled and randomised. 5 participants dropped out before 6 month follow up leaving 51/74 participants in the laser group and 23/74 in the sham group.

The average age was 47.5 and BMI 24.7 across both groups. There was no difference between groups in baseline demographics: age, BMI, smoking, diabetic or menopause status.

When comparing the change from baseline to 6 months between laser and sham there was a statistically significant difference in all of the following: 1 hour pad test, ICIQ-UI SF and PISQ-12. Treatment success described as a 50% reduction in pad weight test score was 62.7% in the laser and 18.2% in sham group ($p<0.001$). The median ICIQ-UI SF score difference at 6 months between sham (-1) and active groups (-4), U= 335, p=0.003). The median PISQ-12 score differences at 6 months between sham (1) and active groups (4.5), U= 335, p=0.008).

There was a statistically significant difference in supine cough test differences at 6 months between sham (1) and active groups (2), U= 394, p=0.013) but not when standing between sham (2) and active groups (2), U= 530, p=0.507).

The procedure was well tolerated by both groups but pain scores were statistically higher in the active group compared with sham (3.4 vs. 0.20 respectively), $p<0.001$. There were two reported adverse effects but neither were related to the treatment.

INTERPRETATION OF RESULTS

This is the first randomised controlled study specifically assessing the effect of Er:YAG laser in treating patients with mild to moderate SUI. Analysis at 6 months demonstrates significant improvement in 1 hour pad test, PISQ-12 and ICIQ-UI SF scores for participants in the laser group when compared to sham. Mixed results were found for the cough test.

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CONCLUSIONS

We believe this to be the first RCT which has looked specifically at the effect of Er:YAG Smooth® laser on participants with mild to moderate SUI. This supports the suggestion Er:YAG laser may be useful when considering treatment options for women with mild to moderate SUI.

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62 - LONG TERM OUTCOMES OF TVT-O: SOURCE OF JOY OR TORMENT? EFFICACY AND SAFETY AT 17 YEARS OF FOLLOW-UP.

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INTRODUCTION AND AIM OF THE STUDY

The aim of this study is to assess efficacy and safety of tension-free vaginal tape-obturator (TVT-O) in treating women with pure stress urinary incontinence (SUI) over a 17years-long follow up.
SUI is the most frequent type of urinary incontinence, with an overall prevalence of 48%, with a range between 29–75%, depending on age.
The implantation of TVT-O, and the use of mid-urethral slings (MUS) in general, for the treatment of SUI has been widely debated over the last decade. On one hand, many high-quality scientific publications and leading urogynaecology societies guidelines describe the TVT-O surgical technique as a safe and effective procedure; on the other hand, the growing evidence of long term negative outcome of this kind of surgery, especially mesh exposure, leaded to the exclusion of TVT-O from among the first-line treatments of SUI in NICE guidelines and in the Food and Drugs Administration (FDA) recommendations. (2)

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MATERIALS AND METHODS

This is an observational prospective study performed in two tertiary level centers. We included all consecutive patient who complained of pure SUI symptoms, that underwent urodynamic testing with a urodynamic diagnosis of SUI. The patients underwent TVT-O procedure from January 2004 and December 2005.
We excluded women with concomitant pelvic organs prolapse (POP) greater than stage 1 according to the POP-Q system, overactive bladder (OAB) symptoms or detrusor overactivity (DO), voiding dysfunction (with postvoid residual >100 ml) and women with history of radical pelvic surgery or psychiatric and neurologic diseases.
Post-operative follow-up evaluation included: clinical history, physical examination, 3-day bladder diary, upright cough stress test with bladder filling > 400 ml (measured by ultrasound) and subjective satisfaction assessment.
70 patients were included:

Characteristics:	n=70
Age, yr, median, (interquartile range, IQR)	57 (49-73)
BMI, kg/m2, median, (IQR)	26.3 (23-36)
Menopausal, no.(%)	51 (72.8)
HRT, no.(%)	11 (15.7)
Recurrent UTI, no.(%)	3 (4.3)
Previous vaginal deliveries, , median, (IQR)	2 (1-7)
Macrosome (≥ 4000 g), no. (%)	8 (11.4)

Operative delivery (vacuum/forceps), no. (%) Smoking habits, no. (%)	5 (7.1) 10 (14.2)

RESULTS

	After 1 year	After 10 years	After 17 years	p- value
Subjective outcomes: satisfied (N)	88.6 % (62/70)	82.9 % (58/70)	81.4 % (57/70)	0.47 [a] 0.24 [b]
Objectively cured (stress test)	85.7 % (60/70)	81.4 % (57/70)	80.0 % (56/70)	0.65 [a] 0.37 [b]
De novo overactive bladder	10 % (7/70)	14.2 % (10/70)	18.5 % (13/70)	0.35 [a] 0.15[b]
[a] Chi-square test [b] Chi square test for trend				

Only one patient required a second TVT-O surgical implantation at 10 years after the first procedure, while 8 patients underwent a second treatment for SUI, specifically urethral bulking agent (UBA) (Macroplastique ®). We recorded 7 (10%) tape exposure (3 occurred after 10 years and 4 at 17 years). Among these, 1 woman was symptomatic for dyspareunia. All patients with mesh exposure were treated with partial removal and re-suture of the vagina. No significant bladder or urethral erosion was registered. Three of 70 sexually active patients (15.7%) reported dyspareunia (without sling exposure) at 17-year; in these cases, we prescribed local estrogenic therapy. The onset of de novo OAB symptoms was reported by 13 of 70 women (18.5%) at 17-year follow-up.

INTERPRETATION OF RESULTS

These data do not reveal any significant variation of the surgical outcomes over the follow-up period demonstrating that TVT-O has a long term effectiveness. Nevertheless, attention should be paid to the increased rate of mesh exposure, especially in the second decade after insertion. In fact, we found 7 cases of sling exposure at 17 years follow-up (10%). In fact, during the previous 10 years follow up, we evaluated 160 patients that underwent TVT-O and none of them showed signs or symptoms of mesh exposure; similarly, at the 13 years follow up we found only 4 cases of sling exposure out of 157 patients; all of the cases occurred after the 10-year follow-up.

With this study we demonstrated that TVT-O is an effective and safe procedure, reporting a subjective and objective cure rates of 81.4% and 80%, respectively.

CONCLUSIONS

The 17-year evaluation of the TVT-O procedure has shown that it is a highly effective and safe option for the treatment of female SUI. However, there was a relevantly increased risk of tape exposure 17 years after implantation, although no serious complications were reported.

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63 - LONG-TERM ADHERENCE TO PELVIC FLOOR MUSCLE EXERCISES AND LIFESTYLE MODIFICATIONS FOLLOWING A PELVIC FLOOR MUSCLE TRAINING PROGRAM IN MENOPAUSAL WOMEN WITH URINARY INCONTINENCE: AN 8-YEAR FOLLOW-UP

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) can be effectively treated with pelvic floor muscle training (PFMT), a first-line treatment for women of all ages. A recent randomized controlled trial demonstrated that supervised PFMT can significantly decrease, even eliminate, UI in women aged 60 years and older with a median reduction in UI episodes of 74% for group PFMT and 70% for individual PFMT one year after intervention (1). Researchers hypothesize that the beneficial effects of PFMT could be maintained in the long term if exercises are continued post intervention. Consequently, we sought to further understand women's long-term commitment to continuing pelvic floor muscle (PFM) exercises and lifestyle modifications. In a sample of women with UI, who followed the 12-week PFMT program and were encouraged to perform a post-treatment PFM exercise maintenance program, we aimed (i) to explore the types and frequency of PFM exercises still performed 8 years after completing the intervention, (ii) to ascertain barriers and limitations to compliance with the PFM maintenance exercises at 8 years, and (iii) to identify lifestyle modifications that were integrated into daily living.

MATERIALS AND METHODS

This is a secondary analysis of an 8-year follow-up of a randomized control trial comparing group-based vs individually-based PFMT programs in women 60 years or older with stress or mixed UI. This trial was approved by the university research ethics board. In this analysis, the two intervention groups, group-based and individual PFTM, were combined in the 8-years follow-up due to similar outcomes after treatment. Participants (n=319) of the initial trial that completed the 1-year follow-up were invited to participate in the 8-year follow-up study. Potential participants were contacted by phone. An evaluator, blinded to the participants' intervention allocation, collected sociodemographic and clinical data from consenting participants. Data were collected regarding the frequency and type of PFM exercises still performed, the preferred position, and how these exercises were integrated into their daily activities. Reasons for non-adherence were explored in participants who did not perform regular PFM exercises at the 8-year follow-up. Information was also collected on the adoption of the lifestyle modifications proposed during the PFMT program.

RESULTS

Among the participants (n=319) who completed the 1-year follow-up, 231 (72.4%) consented to this study. Participants' mean age and standard deviation (SD) was 75.3 (5.7) years old. On average, 7.6 (1.1) years had elapsed between the start of the PFMT intervention and this follow-up data acquisition. The impact of the intervention on the reduction in UI symptoms is described elsewere. Thirty-eight percent (89/230) of participants still performed one or more PFM exercise at least once/week, with the 'strengthening exercise' being the most practiced one (34.9% [80/229]), followed by the 'rapid contractions exercise' (17.5% [40/229]), the 'endurance exercise' (8.7% [20/229]) and the 'coordination exercise' (5.7% [13/229]). Participants did not demonstrate a preference for one position over another when performing the exercises (lying down 18.8% [43/229], sitting down 16.2% [37/229], standing up 17.5% [40/229]). Forty-four percent (99 /225) of the participants integrated the contraction of PFM into daily life activities, with 37.2% (83/223) contracting before coughing, 34.1% (76 /223) before sneezing or while lifting heavy loads (23.3% [52/223]). The most frequently reported reasons for discontinuing the PFM exercises were : a lack of motivation (20.1% [46/229]) and time constraints (13.1% [30/229]). Some women performed the exercises only when symptoms reappeared (11.8% [27/229]). Regarding hygienic-dietary modifications learned during the program, 75.9% of the participants had incorporated at least one into their lifestyle habits. **Table 1** presents specific lifestyle modifications implemented by participants.

	% (number)
Changes in micturition habits[a]	46.7 (99/212)
Effective bladder emptying	38.2 (81/212)
Use of urge suppression technics	5.7 (12/212)
Increase in time between voiding	2.8 (6/212)
Improvement of protection management[b]	1.9 (4/212)
Changes in defecation habits[a]	50.5 (107/212)
Pushing avoidance during defecation	44.3 (94/212)
Adoption of a good posture when defecating	33.5 (71/212)
Use of abdominal massage techniques	3.8 (8/212)
Increase in physical activity	2.4 (5/212)
Changes regarding limitations in intra-abdominal pressures[a]	2.4 (5/212)
Weight loss	1.4 (3/212)
Reduction in physical efforts that increase intra-abdominal pressure	1.4 (3/212)
Treatment of chronic cough	0.5 (1/212)
Dietary changes[a]	37.7 (80/212)
Reduction in bladder irritants consumption	26.4 (56/212)
Increase in water consumption	15.6 (33/212)
Increase in fiber consumption	9.9 (21/212)
Reduction of fluid intake before going to bed	1.9 (4/212)

Table 1. Lifestyle modifications implemented by participants. [a]Participants implemented at least one modification within this category. [b]Participants either reduced the number of unnecessary protective-pads or adapted the type of continence product.

INTERPRETATION OF RESULTS

This is the first study to explore long-term adherence behaviors in older women with UI symptoms following a PFMT program. Some 39% of participants continued practicing PFM exercises, at least once a week, 8 years post intervention, which is in line with other long-term studies' (6-10 years) in which adherence rates vary from 15 to 69% (2). Our results indicate that strengthening and rapid-contraction exercises were the most frequently adhered to compared to coordination exercises, which required an active contraction of the PFM prior to a voluntary cough 13/229 (5.7%). However, 86/231 (37.2%) of the participants integrated PFM contractions before spontaneously coughing. This suggests that implementing a PFM coordination exercise in a real-life setting might be easier to achieve than performing it as part of routine exercises. Moreover, a significant percentage of the participants (44%) integrated PFM exercises into activities of daily living, such as coughing, sneezing, or lifting heavy loads. Maintaining long-term engagement was challenging for some of the participants due to issues like forgetfulness and time constraints. Adherence tends to decrease over time; however, research indicates that PFMT programs with integrated adherence strategies can counter this effect (3). Such strategies should include short, easy to remember programs, with exercises that are easily integrated into daily routines and tailored to the patients' exercise preferences (3). The International Continence Society emphasizes lifestyle intervention for a cure or improvement in UI symptoms. In our study, a significant number of participants (161/212, 75.9%) maintained at least one learned lifestyle change, with changes in micturition and defecation habits being the most implemented strategies.

CONCLUSIONS

Based on the results of this study, it can be concluded that at the 8-year follow-up, more than one third of the participants are still practicing the PFM exercises. Nearly half have integrated these exercises into daily activities. In addition, almost three-quarters of the participants have modified their lifestyle, particularly their urination and defecation habits. These elements suggest some long-term engagement in self-management of UI symptoms, however studies are needed to identify strategies that allow more women to remain engaged in the long term. Future research should focus on understanding the reasons behind the preferential adoption of certain exercises or lifestyle changes over others and explore factors that influence individual choices, such as perceived efficacy, barriers, ease of integration into daily life, and personal health beliefs. Investigation of these aspects can provide valuable information on personalized intervention strategies and the development of personalized educational materials designed to support post-treatment maintenance programs.

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64 - SYNTHETIC MIDURETHRAL SLING IN OBESE PATIENTS – SUCESSFUL OR NOT?

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is a prevalent condition affecting over half of women worldwide, with obesity recognized as a significant risk factor.[1] Increased intra-abdominal pressure and neuroendocrine processes associated with higher body mass index (BMI) are thought to challenge the effectiveness of midurethral sling (MUS) surgery, the gold standard for SUI treatment.[2,3] However, the influence of BMI on surgical outcomes remains uncertain, with conflicting evidence.[1]

This study aims to evaluate the outcomes of SUI treatment with synthetic MUS regarding patients' BMI and to assess if there is a more effective surgical approach among overweight and obese patients.

MATERIALS AND METHODS

A retrospective study was conducted, including women who underwent surgical correction of SUI using synthetic MUS (either Transobturator or Single-Incision) in a tertiary center between January 2004 and December 2023.

Three groups were considered based on body mass index (BMI): G1 - women with normal weight (BMI 18.5-24.9 kg/m^2); G2 - overweight (BMI 25-29.9 kg/m^2); and G3 - obese (BMI ≥ 30 kg/m^2). Patients with missing BMI data, loss to follow-up postoperatively, or insertion of biological slings were excluded from the analysis.

The primary outcomes included short-term failure (defined as the maintenance or reappearance of SUI postoperatively, during the follow-up period), recurrence (relapse of SUI after follow-up discharge), the total success rate (composite outcome excluding all cases of failure and recurrence), and perioperative complication rates concerning BMI. Sling surgical approach and preoperative demographic data were also evaluated. These include age, obstetric history, menopausal status, diabetes mellitus, mixed urinary incontinence, previous SUI surgeries, and preoperative urodynamic tests. Non-parametric tests (Chi-square and Kruskall-Wallis tests) were used to compare variables across BMI groups, with a p-value <0.05 considered statistically significant. Analyses were conducted using IBM SPSS Statistics® 26.

RESULTS

Among the 2507 patients submitted to MUS surgery, 2143 met the inclusion criteria. This included 580 patients with normal weight, 934 overweight, and 629 obese patients, with mean BMI of 22.9 kg/m^2, 27.4 kg/m^2, and 33.4 kg/m^2, respectively. The mean postoperative follow-up duration was 6 months in all BMI groups.

Analysis of preoperative demographic data revealed significant differences among BMI groups in age, parity, mixed urinary incontinence, postmenopausal status, and history of diabetes mellitus (all p<0.01). The surgical approach also differed across the groups (Table 1), with Single-Incision slings being more frequently used in normal-weight women (p<0.01) while the Outside-In Transobturator (TOT) technique was more often employed in obese patients (p=0.01).

Regarding the primary outcomes, the perioperative complication rate was similar across BMI groups (G1: 4%, G2: 2%, G3: 3%, p=0,16). Although there was a trend toward a lower success rate with increasing BMI, it did not reach statistical significance (Figure 1). Further analysis assessed whether the MUS surgical approach influenced primary outcomes across BMI groups. Results showed a higher risk of short-term failure with the Outside-In TOT approach in obese patients compared to the normal-weight group (p=0.03, OR 1.7); however, no significant difference was found in the total success rate (p=0.117). Additionally, no differences in primary outcomes were observed between G1 and G2 patients concerning the MUS technique.

Surgical approach	G1	G2	G3
Single-Incision	73/172 (13%)	62/172 (7%)	37/172 (6%)
"Inside-Out"	89/336 (15%)	153/336 (16%)	94/336 (15%)
"Outside-In"	418/1635 (72%)	719/1635 (77%)	498/1635 (79%)

Table 1: Frequencies of MUS surgical approach, according to BMI.

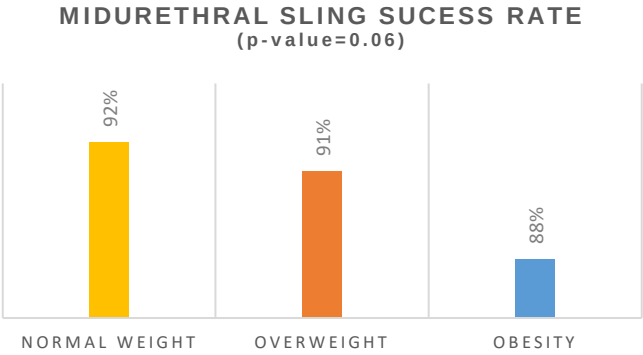

Figure 1: Total success rate of SUI surgical correction with MUS, according to BMI.

INTERPRETATION OF RESULTS

Notwithstanding the higher prevalence of confounding factors in overweight and obese women, SUI surgical correction seems equally effective among groups. Regarding the MUS surgical approach, the Outside-In TOT technique was shown to increase the risk of short-term failure by 70% in obese women. The Outside-In and Inside-Out techniques share the same anatomical approach and synthetic tape materials, but differences in the introducer, its way of insertion, and the passage through the tissues may predispose to the MUS healing in a looser position in situations of increased intra-abdominal pressure.[3] However, these results must be interpreted carefully, as the different surgical techniques were not uniformly performed, possibly influencing the results. For medium to long-term follow-up, total success rates are comparable across all BMI groups, suggesting that when performed by experienced surgeons, all three MUS techniques provide effective SUI correction over the years.

CONCLUSIONS

Although being a primary intervention for SUI treatment, weight loss is often difficult to achieve due to urinary leakage during mild to moderate efforts. Therefore, offering effective long-term surgical procedures, such as the MUS techniques described above, may be a more realistic and beneficial approach for treating SUI in overweight and obese women.

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65 - PHYSICIANS' ATTITUDES TOWARDS SURGICAL TREATMENT AND SUBSEQUENT MODE OF DELIVERY FOR REPRODUCTIVE AGE WOMEN WITH STRESS URINARY INCONTINENCE – AN INTERNATIONAL SURVEY

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INTRODUCTION

While the prevalence of stress urinary incontinence (SUI) increases with age, a substantial number of reproductive age women suffer from this bothersome disorder and some even undergo surgical intervention. Currently, there is limited data regarding the effect of subsequent pregnancy and delivery as well as the preferred mode of delivery following surgery for SUI. The unique group of women who have not yet completed their family planning and seek surgical treatment for SUI imposes a great dilemma for their physicians who are often required to give medical advice in the face of lacking data and professional guidelines.

OBJECTIVE

We aimed to determine physicians' attitudes towards surgical treatment for SUI and its consequences for women of childbearing age.

METHODS

An electronic survey (Table 1) was submitted and approved by the IUGA and AUGS and circulated among their members. This survey included twelve questions regarding physicians' attitudes towards performing anti-incontinence surgeries and subsequent mode of delivery in women who have not yet completed their family planning.

RESULTS

A total of 191 physicians completed the survey. Demographic data is presented in Table 2. The majority of respondents (60.2%) stated that they would perform or recommend surgical treatment for SUI for patients who have not yet completed their family planning, although most (71.2%) would advise them to postpone surgery until completion of their family planning. Male physicians tended to recommend surgery more readily than their female counterparts, while female physicians were more likely to advise postponing surgery until completion of childbearing (76.3% vs. 53.3% p=0.002; 79.8% vs. 62.7%, p=0.01, respectively). Physicians with subspecialty training were more likely to endorse surgical treatment as compared to physicians without such training (68.6% vs. 44.7%, p=0.003). Physicians from North America were more likely to recommend surgical treatment for SUI as compared to their colleagues from other countries (71.3% vs 47.8%, p<0.001). If surgery would be considered, 51.3% would use bulking agents as their procedure of choice followed by retropubic mid-urethral sling (40.8%). Following continence surgery, 33% would recommend postponing subsequent pregnancy for 6-12 months and 26.2% would recommend a permanent contraception procedure. Following anti-incontinence surgery, 47.6% would recommend an elective cesarean section, however, in case of persistent SUI 75.4% would recommend a trial of labor (TOL). Experienced (>5 years) physicians were less likely to recommend a TOL following continence surgical intervention as compared to less experienced (<5 years) physicians (45.9% vs. 73.3%, p<0.001).

CONCLUSIONS

The unique group of women who have not yet completed their family planning and seek surgical treatment for SUI pose a clinical dilemma. The current study results indicate that most physicians would recommend postponing surgical intervention until completion of family planning. In cases surgery was recommended bulking agents were the procedure of choice. Our survey demonstrated significant variability in physicians' attitudes towards the mode of delivery in women following anti-incontinence surgeries, affected by their gender, experience, geographical area of practice and patient continence status.

66 - EFFICACY OF COMBINED CO2 LASER THERAPY WITH β3-ADRENORECEPTOR AGONIST MIRABEGRON IN THE MANAGEMENT OF OVERACTIVE BLADDER: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) manifests a combination of urinary urgency, frequency, nocturia, with or without incontinence in the absence of infection or underlying pathology. Its prevalence rises with age, especially among postmenopausal women, significantly impacting their quality of life. Current treatment options have variable effectiveness, underscoring the need for new therapeutic strategies. This study aimed to evaluate the effectiveness of combining fractional CO2 laser therapy with the β3-adrenoceptor agonist mirabegron compared to mirabegron alone in treating OAB in postmenopausal women.

MATERIALS AND METHODS

This study was a double-blind, randomized controlled trial involving postmenopausal women experiencing OAB symptoms. Participants were randomly assigned to receive either vaginal CO2 laser therapy or a sham procedure, in addition to daily doses of mirabegron (50 mg). The treatment was administered monthly for three months. Outcomes were assessed using validated instruments, including the Overactive Bladder Questionnaire (OAB-q) and a 3-day voiding diary.

RESULTS

Fifty women participated, with 25 in each treatment group. Both groups showed significant improvements in OAB symptoms over time. There was a notable reduction in daily frequency, urgency, nocturia, and incontinence episodes from baseline to follow-up in both groups. However, no significant differences were observed between the groups receiving laser therapy and the sham treatment in any of the evaluated outcomes.

INTERPRETATION OF RESULTS

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Both treatment approaches effectively alleviated OAB symptoms, but the addition of fractional CO2 laser therapy did not enhance the benefits of mirabegron monotherapy.

CONCLUSIONS

Fractional CO2 laser therapy does not significantly improve the therapeutic effects of mirabegron for managing OAB symptoms in postmenopausal women. Although it shows promise for treating genitourinary syndrome of menopause (GSM), its effectiveness for OAB remains unsubstantiated. Further large-scale randomized studies are necessary to determine the role of CO2 laser therapy in OAB treatment, especially in women with severe vaginal atrophy.

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67 - LONG-TERM EFFECTIVENESS OF A SUPERVISED PELVIC-FLOOR-MUSCLE TRAINING PROGRAM FOR URINARY INCONTINENCE IN WOMEN 60 YEARS AND OLDER: AN 8-YEAR FOLLOW-UP STUDY

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INTRODUCTION AND AIM OF THE STUDY

Up to 55% of women 60 years and older experience symptoms of urinary incontinence (UI) that often engender poor self-esteem and limit social interactions that can, over time, lead to isolation and physical inactivity. A non-inferiority randomized-controlled trial has shown that supervised pelvic floor muscle training (PFMT) can significantly reduce or even eliminate urinary leakages in women 60 years old and over (1). At 1-year evaluation, both group-based and individual treatments demonstrated a median percentage reduction in UI episodes, 74% and 70% respectively (1). However, to date, no study has specifically evaluated the long-term impact (>2 years) of PFMT on UI symptoms in older women. Considering the significant effects of aging on muscle morphology and function, the long-term effectiveness of PFMT needs to be studied in this population. Additionally, it is essential to address the dismissive stigma associated with aging, particularly towards older women with UI, who are often told that they are too old to expect any symptom reduction (2). The objective of this study was to evaluate the long-term effectiveness of a supervised PFMT program for UI in women aged 60 and over, by comparing the number of urinary leakages/day prior to and 8-years post-treatment.

MATERIALS AND METHODS

This is a secondary analysis of the 8-year follow-up of a multicenter randomized-control trial comparing group- and individually based PFMT in women 60 years or older with stress or mixed UI. This study was conducted between July 2012 and June 2023 and approved by the research center's ethics board. Women who participated in the original study and had completed the one-year evaluation were invited to participate in the 8-year follow-up (1). The original study included two intervention arms, group and individual PFMT. At 8 years, the data from both interventions were combined due to the absence of a significant difference in the primary outcome one-year post intervention. The outcome of interest was the average number of leakage episodes per day as measured by a 7-day bladder diary, with measurements taken prior to treatment and at 12 weeks, 1 year and 8 years post-intervention. Both interventions included a sequence of PFMT exercises, structured into increasingly demanding one-hour weekly sessions over 12 weeks, complemented by a pelvic floor muscle (PFM) exercise routine to be completed five days per week at home. Upon completing the program, all participants were asked to continue practicing PFM exercises at home, three days a week. For the statistical analysis, the median number of UI episodes per day at 8 years was compared to the median observed at baseline using the Wilcoxon rank sum test. The confidence intervals for the differences were estimated using a nonparametric bootstrap approach based on 300 resamples. The Bonferroni correction was used due to multiple testing (K = 5), resulting in a significance level of 0.05 / 5 = 0.01.

RESULTS

Between March 2022 and June 2023, 231 of the 319 (72.4%) participants who completed the one-year follow-up consented to participate in the 8-year follow-up. Most of the losses (33/88, 37.5%) to the 8-year follow-up were due to participants being unreachable: phone numbers were out of service or participants did not answer the phone calls. Additionally, 5/88 (0.56%) participants had passed away and 24/88 (27.27%) were unable to participate because of debilitating health issues unrelated to their UI symptoms. Table 1 presents the demographic and clinical characteristics of the participants at the 8-year follow-up.

	All
Time between baseline and 8-year follow-up, mean (SD), years	7.60 (1.10); n=231
Age, mean (SD), years	75.3 (5.7); n=231
BMI, mean (SD)	26.1 (4.3); n=231
Number of medications, mean (SD)	3.3 (1.8); n=203
Number of comorbidities, mean (SD)	4.4 (2.3); n=229

Table 1. Sociodemographic data at 8 years. Abbreviations – n: number of patients for whom data was available; SD: standard deviation; BMI: body-mass index, calculated as weight in kilograms divided by height in meters squared.

Since completing the 12-week PFMT program, 6/230 (2.6%) participants had undergone UI surgery and 8/230 (3.5%) had been prescribed medication to treat UI.

The median (interquartile range, IQR) daily leakage episodes were 1.43 (0.86, 2.32) at baseline, 0.43 (0.14, 1) at 12-weeks, 0.43 (0.14, 1) at 1 year and 0.57 (0.29,1.29) at 8 years. A comparison between the 8-year follow-up and baseline revealed a significant reduction in the median number of daily UI episodes, with a median decrease of 0.86 episodes per day at 8 years (median [IQR]: 0.86 [-1.00; -0.71]; P<0.01). Overall, 8 years' post-intervention, 51.7% of participants experienced a decrease in leakage episodes of more than 50% compared to baseline.

INTERPRETATION OF RESULTS

This is the first long-term follow-up (>2 years) of a randomized controlled trial evaluating the effect of a supervised PFMT program on UI in women 60 years and older. Among the 319 participants in the 1-year follow-up, 72.4% participated in the 8-year follow-up study. The 27.6% attrition rate is considered acceptable considering the advanced age of the participants, which inherently increases the likelihood of loss due to mortality and other health-related events. Further, 8 years after the initial PFMT intervention, very few participants had undergone UI surgery or were prescribed medication, suggesting the majority did not require more invasive interventions. This outcome further reinforces PFMT as a first-line conservative management strategy for UI in older women. Our results demonstrate that the reduction in UI symptoms is significant 8 years post-intervention, with a median decrease of 0.86 episodes per day compared to baseline. With more than 50% of participants presenting with a clinically significant leakage reduction at 8 years, PFMT appears to be an effective long-term conservative treatment for UI symptoms in women over 60.

CONCLUSIONS

This 8-year follow-up study supports the long-term effectiveness of PFMT in reducing UI symptoms in women 60 years and older with SUI and MUI. Eight years after the initial intervention, few participants had undergone surgery for UI or were prescribed medication. The significant reduction in urinary leakages persisted eight years post-intervention, supporting the long-term effectiveness of PFMT in this population. Despite the effects of aging on the pelvic floor, PFMT should be recommended to older women as it can significantly improve UI symptoms in the long term.

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68 - PIONEERING ENHANCED RECOVERY IN UROGYNAECOLOGY BY EARLY CATHETER REMOVAL AND SAME-DAY DISCHARGE FOLLOWING LAPAROSCOPIC COLPOSUSPENSION

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INTRODUCTION:

By implementing enhanced recovery after surgery (ERAS) protocols for patients undergoing laparoscopic colposuspension, there is the potential to enhance patient experience without compromising surgical outcomes. Among these interventions is early catheter removal, yet the evidence supporting same-day catheter removal and its impact on patient outcomes is lacking.

AIM OF THE STUDY:

The primary objective of the study was to explore the relationship between timing of catheter removal following laparoscopic colposuspension and hospital discharge. The secondary outcome was to assess the safety of early catheter removal looking at rates of urinary retention and urinary tract infection (UTI), need for intermittent self-catheterization (ISC) and continence outcomes using pre & post-procedure ICIQ-UI SF score.

METHODS:

A retrospective analysis of patients who had laparoscopic colposuspension performed at our hospital between May 2014 and March 2023 was carried out. 57 patients were identified from our database and the medical records were retrieved for data collection. 4 patients had insufficient records for data collection and were excluded from the study

RESULTS:

In our analysis, there were no differences in patient diagnoses, primary or secondary surgery and operating time. All 53 patients had specific instructions for catheter removal timing documented by the surgeon in their operation notes. The average time for catheter removal postoperatively was 8.29 hours, except for 1 patient who required indwelling catheter due to intraoperative bladder injury. Notably, 4 patients (7.5%) underwent immediate catheter removal in the operating theatre & were discharged on the same day as their surgery. Importantly, none of these patients experienced postoperative urinary retention, the need for intermittent self-catheterization (ISC), urinary tract infection (UTI), or required readmission to the hospital.

In our Cohort, 45 patients (84.9%) were discharged home in less than 24 hours following surgery, while 4 patients (7.5%) were discharged on day 2, 3 patients (5.7%) on day 3 and 1 patient (1.9%) on day 4 following surgery. It is noteworthy that there exists a significant positive correlation ($p < 0.001$) between the hospital stay duration and the time taken for catheter removal.

Following discharge, 1 patient (1.8 %) required readmission to the hospital for reasons unrelated to catheter removal (i.e. haematoma). Additionally, 4 women (7.4%) were diagnosed with postoperative UTIs after leaving the hospital, which is not significantly different from the known risk of UTI following both open and laparoscopic colposuspension (BSUG).

1 women (1.9%) had de novo postoperative urinary retention requiring ISC after discharge for 2 weeks due to recurrent UTI's. 2 women (3.7%) required a further single catheterisation while still inpatient, after which they were able to empty the bladder completely.

When assessing efficacy of the procedure, the mean ICIQ-UI SF score decreased from 16.5 before surgery to 6.1 after surgery ($p < 0.05$), indicating a significant improvement in urinary incontinence symptoms following the procedure.

CONCLUSIONS:

Our study findings indicate that same-day catheter removal following laparoscopic colposuspension is not only feasible but also safe. This can allow optimization of patient recovery by reducing the hospital stay duration, without increasing the rates of morbidity, mortality, or readmission. The successful implementation of ERAS in laparoscopic colposuspension can be applied to various healthcare environments without fear of compromising continence outcomes as demonstrated by our significant reduction in ICIQ score. We continue to collect data for this project and anticipate sharing results from the complete cohort in the future.

69 - ROBOTIC MODIFIED BURCH COLPOSUSPENSION

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BACKGROUND/AIM

The video demonstrates a modified approach to robotic Burch colposuspension. Laparoscopic colposuspension and more recently robotic colposuspension has been performed by a technique similar to the traditional open Burch colposuspension . This involves opening the peritoneum medially between the two lateral obliterated umbilical ligaments, dissecting down the bladder, dissection in the retropubic space to expose the paracolpos and iliopectineal ligaments and insertion of sutures on either side of the bladder neck.

METHOD

The modified robotic Burch technique shown in the video involves a lateral approach to the iliopectineal ligaments and dissection of the paracolpos without the need to dissect down the bladder. The precision surgery allows suturing within a confined 1-2 cm space on either side, making it possible to insert the colposuspension sutures without extensive dissecsion.

RESULTS

There is a lower risk of bladder injury with this approach. This technique allows for faster recovery, reduced morbidity, quicker return to activities and day-case surgery. This technique also requires reduced operating times compared to standard laparoscopic or robotic colposuspension; and thus leads to improved productivity and theatre utilisation.

CONCLUSION

The robotic modified Burch colposuspension thus benefits patients, surgeons and overstretched healthcare systems.

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70 - LAPAROSCOPIC REPAIR OF VAGINAL MESH EROSION AFTER SACROCOLPOPEXY - A COMPREHENSIVE VIDEO PRESENTATION

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INTRODUCTION AND AIM OF THE STUDY

The aim of this video is to present a standardized and reproducible approach to mesh excision and vaginal repair of erosion after laparoscopic prolapse surgery.

MATERIALS AND METHODS

Laparoscopic partial mesh excision and repair of the eroded vaginal wall was performed at a secondary referral center. Patient consent was obtained.

RESULTS

This educational film presents a systematic approach dividing the surgical procedure into following five steps: (1) opening the peritoneum over the colpotomy, (2) dissection of the bladder from the vaginal wall after filling the bladder with 200 ml of saline solution for better delineation, (3) presenting the eroded spots from the vagina and marking them by a stich, (4) resection of the mesh and vaginal wall in these areas, (5) debridement of the vaginal wall and double (vaginal and laparoscopic) suture enhancing the areas with paravaginal tissue.

INTERPRETATION OF RESULTS

Mesh exposure after laparoscopic prolapse surgery is a condition affecting 0,7-1,4% of women during the first year after the operation rising up to 10% after 7 years. Known risk factors are small pore size of multifilament mesh, inflammation reaction depending on mesh type or induced by mechanical changes of the mesh after trimming it.

CONCLUSIONS

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Resection and repair of the eroded areas can be challenging and requires a standardized procedure in order to preserve as much as possible of the prolapse correction while safely removing all eroded areas.

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71 - MULTIPLE STEPS SURGICAL REPAIR IN ADVANCED PELVIC ORGAN PROLAPSE – CASE REPORT SERIES

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse is a common condition that may influence the patient's quality of life, especially in the advanced stadium.

Total pelvic organ prolapse may manifest with both bulging, lower urinary tract symptoms and problems with defecation, and acute, health-threatening conditions as urinary retention, intestinal obstruction or decubitus ulcers.

There are no clear recommendations for surgical treatment in total pelvic organ prolapse and individual approach is needed in every case.

MATERIALS AND METHODS

The video presentation includes medical history and visual documentation of two cases of advanced, irreducible total pelvic organ prolapse accompanied by severe vaginal ulceration.

RESULTS

In both presented cases the treatment needed multiple surgical steps due to the large size of the prolapse and vaginal wall's decubitus ulcers.

In the first case the therapy included 2 surgeries in the period of 10 days – cervicofixation and vaginal repair.

In the second case, the therapy included 3 surgeries in the period of 30 days, with additional procedure due to massive urolithiasis.

Between the procedures, both patients needed anti-decubitus vaginal dressings.

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INTERPRETATION OF RESULTS

Both described cases resulted in good pelvic organs functioning with no bulging in the short postoperative period. The long-time observation and larger study group is needed.

CONCLUSIONS

Every case of advanced, total pelvic organ prolapse needs individual analysis and planning of the treatment, sometimes with the need of multiple surgical steps. Patients need to be informed about planned procedures and higher than usual risk of complications.

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72 - LAPAROSCOPIC CORRECTION OF ISOLATED RECTOCELE WITH POSTERIOR MESH - A DEMONSTRATION VIDEO OF A FEASIBLE SURGICAL TECHNIQUE

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INTRODUCTION AND AIM OF THE STUDY

Rectocele is defined as a hernia of the rectum with protrusion of the anterior rectal wall through the posterior wall of the vagina. It may be isolated or associated with other disorders of pelvic stasis such as cystocele and uterine prolapse. The estimated prevalence of rectocele is of 30-50% of women over age 50 [1]. Although sometimes asymptomatic, it can be associated with anorectal and/or gynecological complaints such as pelvic heaviness, vaginal fullness, dyspareunia, dyschezia, obstructed defecation syndrome requiring digital disimpaction maneuvers, or anal incontinence. Surgical repair for rectocele is indicated based on the severity of symptoms affecting the quality of life of patients and failure of medical treatment with the aim to restore anatomy and bowel function. Although different approaches are possible, there is currently no consensus on the most effective surgical technique in literature. Historically surgical approach depends on the type of rectocele: a low/mid rectum isolated rectocele is usually approached from a transanal, transperineal or transvaginal route, while a high rectocele or rectocele associated with various disorders of pelvic stasis, with a transabdominal rectopexy or sacrocolpopexy [2].

We present a case of a 75 year's old patient, BMI 22, complaining symptoms of pelvic heaviness in lower abdomen and vaginal fullness. She did not report any defecation obstructive syndrome, dyschezia or dyspareunia. She did not have any previous abdominal surgery and had a single eutocic delivery. At the clinical evaluation she presented with an isolated rectocele (grade III Baden-Walker) without any other associated disorders of pelvic stasis (Figure 1).

Figure 1 – Isolated rectocele on gynecological examination.

She underwent a laparoscopic correction of the isolated rectocele with posterior mesh placement and concomitant bilateral adnexectomy. Four trocars were inserted as follows: two 5 mm trocars from the left and right upper quadrants, one 10 mm trocar in the median suprapubic quadrant and a 12 mm trocar in the umbilicus. The dissection was initiated with the opening of the rectovaginal septum and was kept limited to the anterior wall of the rectum. Denonvillier's fascia was opened, and the dissection was continued until the pelvic floor muscles were exposed. The level of pelvic floor muscles was also confirmed with digital vaginal and rectal examination, intraoperatively. A polypropylene/polyglactin mesh (Restorelle®, Coloplast) of 30 × 30 cm was fashioned with a distal width of 6 cm tapering it to a proximal width of 8 cm. The mesh was placed anteriorly to the rectum and fixated by 10 2/0 polyglactin sutures (Vicryl Plus ®, Johnson & Johnson Ethicon Inc., USA) on each puborectal muscle, uterosacral ligament, retrocervical area and at the perineal body. The pelvic peritoneum was approximated with continuous 2/0 Stratafix ™ (Ethicon, USA) suture to cover the mesh.

Gynecological examination at the end of the surgical operation confirmed a complete anatomical correction of the isolated rectocele (Figure 2).

Figure 2 – End result of laparoscopic correction of isolated rectocele

We aim to demonstrate a feasible surgical technique of laparoscopic correction of isolated rectocele with posterior mesh placement.

MATERIALS AND METHODS

MEDLINE (PubMed), Google Scholar and Scopus databases were searched up to August 2024. Only articles in English were included in the search. The research strategy adopted included different combinations of the following terms: (isolated rectocele) AND (laparoscopic correction); (isolated rectocele) AND (posterior mesh); (isolated rectocele) AND (surgical treatment), (isolated rectocele) AND (native-tissue repair).

RESULTS

Although there is no current consensus on the best surgical approach for isolated rectocele, standard surgical treatment is represented by a transvaginal/transperineal or transanal approach [2]. In the gynaecological field, transvaginal native tissue repair has been demonstrated a safe and effective procedure for ameliorating obstructed defecation and bulging symptoms with a minimal objective recurrence (7.1%), reoperation rate (3.7%) and optimal anatomical and functional outcomes [3]. In case of a multicompartmental prolapse, the standard surgical approach is represented by laparoscopic abdominal sacrocolpopexy, although in recent evidence lateral suspension with uterine preservation seems to be a valid alternative.

There is no evidence in literature of a description of laparoscopic posterior mesh placement for isolated rectocele correction.

INTERPRETATION OF RESULTS

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Transvaginal approaches in the correction of an isolated rectocele are safe techniques with low surgical complications, however a consensus on surgical repair of isolated rectocele is not yet established. Our approach could represent a feasible alternative to native tissue transvaginal repair, without exposure of difficult surgical procedures such as sacral promontory dissection, sacral nerve root damage and vascular injuries which are rare but severe intraoperative complications of abdominal rectopexy or sacrocolpopexy.

CONCLUSIONS

Laparoscopic posterior mesh placement could be considered an alternative surgical technique for isolated rectocele surgical repair, especially in patients with need of a bilateral adnexectomy, although randomized controlled studies are needed to compare long-term anatomical, functional results and impact of quality of life of patients who undergo these kinds of procedures with known standard approaches.

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73 - IIIB postpartum complete laceration reparation with overlapping technique of the external anal sphincter

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIs) are the most severe form of perineal trauma, associated with significant maternal morbidity, including perineal pain, sexual dysfunction, anal and urinary incontinence (1). OASIS are divided into two groups: third degree laceration, defined as IIIa if less than 50% of external anal sphincter (EAS) is involved, IIIb if more than 50% is involved, and IIIc if both EAS and internal anal sphincter (IAS) are torn. A fourth degree laceration is defined if the perineum injury involves EAS, IAS and the anal epithelium or rectal mucosa (2). Treatment of OASIS requires a correct diagnosis and immediate surgical reparation, that must be performed by trained surgeons.
Only two methods are recognized for EAS repairing, end-to-end (approximation) and overlap repair (3). In end-to-end method, the torn ends of the EAS are approximated and sutured (3). In the overlap method, the torn ends of the EAS are brough together and sutured by overlapping one end of the muscle over the other in a double breasted fashion (3). The available data showed that compared with immediate primary end-to -end repair of obstetric OASIS, immediate primary overlap appears to be associated with a reduced risk of faecal urgency and anal incontinence at 12 months (3).

MATERIALS AND METHODS

A 30 year old woman P0 at 41 weeks of pregnancy was admitted to our Teaching Hospital for programmed labour induction due to gestational diabetes in insuline and metformine therapy.
Induction was performed with endovaginal prostaglandins.
A 3720 grams male newborn, Apgar score 7 at minute 1 and 9 at minute 5 was delivered in epidural anesthesia. Total blood loss was 100 mL. At afterbirth conclusion, a complete EAS (IIIB) vaginoperineal laceration with complete disruption of the external anal sphincter was found.
After signing informed consent for reparation and operation's video recording, the patient underwent to surgical reparation.

RESULTS

An accurate pelvic exam with rectal exploration confirmed IIIb OASIS with exclusion of any IAS or anal/rectal mucosa laceration. The reparation began with EAS overlapping transversal suture technique using multiple PDS 3/0 stitches.
Perineal muscle-fascial plan and centrus tendineous were reconstructed using multiple Vicryl 2/0 stitches. Vaginal mucosa, subcutaneous tissue and skin were sutured with running suture Vicryl 2/0 from the apex to the external anal skin. At the end rectal exploration showed no signs of anal laxity. Postpartum course was regular with standard systemic antibiotic and laxative therapy. No fever, hematoma, urinary or anal incontinence episode occurred. The patient was regularly discharged at 72 hours from childbirth. No early or intermediate complication occurred.
Postpartum valuation 40 days after delivery was regular, without anal incontinence.

INTERPRETATION OF RESULTS

Given the high morbidity caused by OASIS, an immediate recognition is mandatory. Midwives and gynecologists must be trained to identify and classify those kind of lacerations.

CONCLUSIONS

We present this teaching video made in our Teaching Hospital like a tutorial, with the intent to show and teach to our residents and colleagues a very simple technique for EAS injuries recognition and reparation. We believe that simplification of teaching through representation in video clip can benefit the training of young gynecologists and patient satisfaction.

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74 - PARACLITORAL EPIDERMAL CYST: A VIDEO CASE REPORT AND LITERATURE SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Epidermal inclusion cysts are benign lesions with usually good prognosis. Clitoral epidermal cysts are very uncommon and can be spontaneous or caused by a prior surgical operation, usually female genital mutilation. Surgical removal of the cyst is the preferred treatment, and it is associated with excellent postoperative results. We present a case of a large clitoral epidermal inclusion cyst that was surgically approached. Furthermore, we conducted a literature review of other reported clitoral epidermal inclusion cysts.

MATERIALS AND METHODS

We report a case of epidermal clitoral cyst in a 39 years-old woman who referred to our division for vaginal bulging symptoms. Clinical examination revealed a 6-7 cm paraclitoral bulging mass determining deep anatomical subversion with a seeming apparent cleavage plane. After proper counseling, the patient was admitted to paraclitoral cyst excision. No surgical complications were observed.

We conducted a systematic review of studies on epidermal clitoral cyst to synthesize available knowledge on symptoms, diagnosis, etiology, and management about this rare condition.

RESULTS

A total of 46 studies, describing 162 patients, were identified. The median age of presentation was 23,6 and the chief complaint was the presence of clitoral mass and clitoromegaly. Other symptoms included sexual dysfunctions or discomfort, urological symptoms, pain with deambulation, and psychological distress. Clinical examination as well as other instrumental techniques represented a useful tool for diagnosis. The gold standard treatment was surgical excision with no recurrences observed at the follow-up.

INTERPRETATION OF RESULTS

Despite clitoral epidermal inclusion cysts may have a spontaneous etiology, they are most commonly diagnosed after a history of FGM. Past history and physical examination are usually sufficient to diagnose this condition and to facilitate the differential diagnosis, preventing unnecessary investigation and delay in the surgical treatment. Total surgical excision of the mass is more appropriate for definitive histopathological diagnosis, to treat urinary and vaginal symptoms, sexual dysfunctions, and to prevent complications.

CONCLUSIONS

We present the first systematic review focusing on epidermal clitoral cysts including both spontaneous and traumatic etiologies. It is important to include these lesions in the differential diagnosis of congenital clitoromegaly and clitoral mass, especially in the case of history of FGM, trauma, or surgery in the genital area. Since they may cause symptoms that negatively impact quality of life, surgical treatment should be performed as soon as possible.

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75 - LAPAROSCOPIC URETEROCYSTONEOSTOMY FOR URETEROVAGINAL FISTULA AFTER TOTAL LAPAROSCOPIC HYSTERECTOMY

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INTRODUCTION

The incidence of urinary tract injuries in gynaecological surgery for benign indications is reported in the literature to be around 0.3%[1].

The bladder is injured 3 times more often than the ureter. In a systematic review of 37 studies, the incidence of bladder and ureter injury was found to be 0.2% and 0.03%-0.05%, respectively, among total laparoscopic hysterectomies for benign indications. Laparoscopically assisted vaginal hysterectomy has a higher incidence of bladder (0.9-1.2%) and ureteral injuries

The incidence of vesicovaginal fistula (VVF) and ureterovaginal fistula (UVF) is 0.02%.

In developing countries with poor obstetric care, VVF occurs mainly due to

prolonged labour or instrumentation during labour. In countries with adequate obstetric care, 90% of VVF cases are caused by gynaecological surgery. Hysterectomy, both transabdominal and transvaginal approaches, is the most common procedure.

that leads to fistula formation. Hysterectomy alone accounts for 75% of cases of VVF.2 Other causes include gynecological malignancies and pelvic radiotherapy.

Approximately 10-12% of patients with VVF have associated ureteral injury causing UVF.

Electrocoagulation tools are responsible for the majority of ureteral injuries resulting from minimally invasive surgery. Laparoscopic reconstructive surgeries for urinary tract injuries are technically challenging and are associated with longer operative time.

CONCLUSION

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Our case report shows the operative management of ureterovaginal fistula by ureterocystoneostomy. Efforts at conservative management through JJ stent insertion were not successful due to complete ureteral stitching.

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76 - ROBOT ASSISTED LAPAROSCOPIC SACROCOLPOPEXY WITH DA VINCI®

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INTRODUCTION AND AIM OF THE STUDY

Abdominal sacrocolpopexy with mesh is considered the "Gold Standard" in the management of vaginal vault prolapse. It also allows anterior and posterior vaginal reconstruction to correct cystocele and rectocele. Robotic-assisted surgery represents a new step in the evolution of this procedure.

The objective of this video is to show the surgical technique of robotic assisted laparoscopic sacrocolpopexy used in our centre, explaining the main surgical maneuvers and conclusions obtained with our experience.

MATERIALS AND METHODS

We present a 55 year old sexually active woman, with 2 successful pregnancies, a tubal ligation in Colombia in the year 2000, a history of breast cancer in 2020 treated with left inferior quadrantectomy followed by chemo and radiotherapy. She is undergoing active treatment with Tamoxifen from 2021 till 2031 and had an endometrial polypectomy in 2022.

She presented with frequent urination, difficulty urinating with the need for abdominal pressure to ensure complete bladder emptying, urge urinary incontinence, and low stress incontinence.

The physical exam showed cystocele grade III with Valsalva maneuver and urethral prolapse.

A uroflowmetry test revealed complete bladder emptying, with a total urine volume of 566mL and PMR of 23mL with a Qmax of 30.7m/s. No relevant findings were shown on the abdominal ultrasound and urine cultures were negative.

RESULTS

We describe our standardized technique describing the key steps of the procedure. The surgery was uneventful with an operative time of 180 minutes and the prolapse was corrected. The patient had her bladder catheter removed after 24 hours and was discharged after 48 hours. There were no perioperative or postoperative complications.

CONCLUSIONS

In our experience, the robotic approach simplifies surgical maneuvers and shortens the learning curve, showing safe and effective results for the treatment of anterior compartment prolapses.

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77 - HERBAL NON-ANTIBIOTICS PREVENTION OF URINARY TRACT INFECTIONS AFTER MIDURETHRAL SLING PLACEMENT

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INTRODUCTION AND AIM OF THE STUDY

Despite the use of intraoperative antibiotics prophylaxis before midurethralsling (MUS) placement urinary tract Infections (UTI) are still a clinical problems which influence patient quality of life after such type of surgery. Although the use of antibiotics is the treatment of choice for symptomatic UTIs and its prophylaxis there is substantial evidence that plant-based therapies and/or herbal combinations have the potential to prevent UTIs and this effect could be explain by the inhibition of biofilm formation [1,2].

The aim of the study was to compare the influence of three types of herbal medicine: F–Femistina (*D-mannose+ Arctostaphylos uva-ursi, Betula pendula, Berberis aristata* - 40 mg, oral, twice daily for 20 days); C - Canephron(*Centaurium erythraea, Levisticum officinale, Rosmarinus officinalis* - 3 × 5 ml taken orally-three times daily for 4 weeks); M – Multiuri *(extract of cranberry fruit, including proanthocyanidins, D-mannose +Lactoferrin + Lactobacillus rhamnosus, Lactobacillus plantarum and Lactobacillus paracasei* - 2 sachets daily, orally for 4 weeks).

MATERIALS AND METHODS

The study group consisted of 300 patients divided into 3 groups depending on the herbal medicine type used in order to prevent postoperative UTIs occurence. All study participants had negative culture and urine analysis before the procedure. Only patients with grade 0 or 1 according to Pelvic Organ Prolapse Quantification System were included into the study. The preoperative diagnosis was based on a clinical examination with positive cough test accompanied by detailed interview, including filling-out the Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-SF), Urinary Distress Inventory (UDI-6), and Incontinence Impact Questionnaire Short Form (IIQ-7). – Table 1. In all participants, surgery was performed in outpatient department using a standarised, previously described way [3]. All study participants received a single intravenous dose of 1 g of cefixime before surgery. Monofilament transobturator tapes (Hernniamesh, Italy) were used for all operations. All patients gave informed consent to participate in this study and Local Ethical Committee approved the study protocol (KE-0254/260).

RESULTS AND INTERPRETATION OF RESULTS

Demographic data were homogenous for in all 3 study groups for age [mean ± SD years] (C: 50.18±11.89; F: 51.95±11.51; and M: 52.43±10.22) as well as body mass index- BMI [mean ± SD kg/m^2 (C:27.73±4.15; F: 28.15±5.32; M: 27.34±4.34) respectively. Following the analysis of the collected data, it was determined that within the first six months after surgery 18 patients (18%) in the group receiving Canephron postoperatively developed symptoms of a urinary tract infection (UTI), while only six patients (6%) in the Femistina group exhibited UTI, and 12 patients (12%) in the Multiuri group did so. The chi-square test demonstrated a statistically significant reduction the UTI symptoms among patients treated with Femistina (p = 0.0187, chi2 = 5.53) in comparison to Canephron. In contrast, no statistically significant difference was observed when comparing Canephron to Multiuri (p = 0.235, chi2 = 1.41) and Femistina to Multiuri (p = 1.45, chi2 = 0.228).

The clinical effectiveness of TOT procedure was very high as indicated by clinical examination and questionnaires used.- Table 1.

CONCLUSIONS

Herbal medicine could be effectively used in order to prevent UTIs after MUS surgery. The present study provides preliminary evidence in support of the hypothesis that a combination of selected botanicals plus d-mannose has the potential for a safe and effective reduction of UTIs after MUS surgery.

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Table 1. ICIQ-SF, UDI-6, IIQ-7 questionnaries results before and 6 months after MUS in patients receiving Canephron, Femistina and Multiuri

	Before surgery [A]			6 months after surgery [B]			Statistical analysis inside each group p*
Variable	ICIQ-SF Mean ± SD	UDI-6 Mean ± SD	IIQ-7 Mean ± SD	ICIQ-SF Mean ± SD	UDI-6 Mean ± SD	IIQ-7 Mean ± SD	
Canephron group -C, (n= 100)	13.64±4.64	61.6±19.27	62.04±23.34	3.75±6.24	14.94±22.56	14.38±27.71	ICIQ-SF^{A} vs ICIQ-SF^{B}, p<0.001 UDI-6 ^{A} vs UDI-6 ^{B}, p<0.001 IIQ-7^{A} vs IIQ-7^{B}, p<0.001
Femistina group - F, (n= 100)	13.92±3.98	60.55±21.49	58.85±24.97	1.92±4.05	10.27±16.68	8.95±18.4	
Multiuri group-M, (n = 100)	15.05±3.74	63.77±18.84	64.71±24.85	2.66±4.55	8.22±18.17	5.79±16.61	

* Student's t test

ICIQ-SF ^{A} C vs ICIQ-SF ^{A} F p=0.143, ICIQ-SF ^{A} C vs ICIQ-SF ^{A} M p=0.036, ICIQ-SF ^{A} F vs ICIQ-SF ^{A} M p=0.036
ICIQ-SF ^{B}C vs ICIQ-SF ^{B} F p= 0.000, ICIQ-SF ^{B} C vs ICIQ-SF ^{B} M p=0.002, ICIQ-SF ^{B} F vs ICIQ-SF ^{B} M p= 0.257

UDI-6 ^{A} C vs UDI-6 ^{A} F p=0.290, UDI-6^{A} C vs UDI-6^{A} M p=0.810, UDI-6 ^{A} F vs UDI-6 ^{A} M p=0.193
UDI-6^{B}C vs UDI-6 ^{B} F p= 0.003, UDI-6^{B} C vs UDI-6 ^{B} M p=0.034, UDI-6^{B} F vs UDI-6 ^{B} M p= 0.397

IIQ-7^{A} C vs IIQ-7 ^{A} F p=0.550, IIQ-7^{A} C vs IIQ-7^{A} M p=0.584, IIQ-7 ^{A} F vs IIQ-7 ^{A} M p=0.960
IIQ-7^{B}C vs IIQ-7^{B} F p= 0.000, IIQ-7^{B} C vs IIQ-7 ^{B} M p=0.000, IIQ-7 ^{B} F vs IIQ-7^{B} M p= 0.105

78 - POLYDIMETHYLSILOXANE URETHRAL INJECTION (MACROPLASTIQUE®) FOR THE TREATMENT OF URINARY INCONTINENCE: EFFICACY, SAFETY, AND IMPACT ON THE OVERACTIVE BLADDER SYMPTOMS WITH AN UNDERLYING DETRUSOR OVERACT

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INTRODUCTION AND AIM OF THE STUDY

The aim of the present study is to evaluate the effectiveness of Macroplastique (MPQ) procedure on overactive bladder (OAB) symptoms in women with mixed urinary incontinence (MUI) with a minimum follow-up of 1 year.
MUI is defined as the involuntary loss of urine associated both with the sensation of urgency and with effort. The prevalence of MUI accounts for 35% of incontinence observed in daily clinical practice, however it varies widely (ranges from 8.3% to 93.3%) depending on the definition used. Women of all ages are affected, but ageing is associated with a steadily increasing risk of MUI.
There are no international published guidelines that dictate whether it is better to start with surgical management to address the stress urinary incontinence (SUI) or urge urinary incontinence (UUI) component.
While the SUI treatment is almost always surgical, first-line treatment for OAB includes behavioral therapy, such as reducing weight and fluid intake, bladder training and pelvic floor muscle training, as well as pharmacological treatment with antimuscarinic drugs and β3-adrenergic agonists.
Patients with refractory OAB (rOAB) may have more severe symptoms or underlying pathophysiology that were not resolved by the first line medication.
In our study, we focused on the urethrogenic hypothesis for the pathogenesis of MUI: urgency can be caused from activation of urethral afferents by urethral perfusion that can modulate the micturition reflex. The hypothesis is that the entry of urine into the proximal urethra in patients with SUI may stimulate urethral afferents, inducing and/or increasing UUI. In these cases, a surgical first line surgical approach to MUS could be considered as a first line choice
The use of mid urethral slings (MUS) for the treatment of MUI appears to be a viable option because of the effectiveness of this technique on SUI. Nevertheless, after the US Food and Drug Administration (FDA) in 2019, this type of surgery has been widely debated in recent years (mostly because of the rate of mesh
Erosion). Furthermore, Persistent urinary urgency after MUS is prevalent and ranges from 30 to 70%. This fact makes MUS not totally satisfying in treating MUS. On the contrary, recent data on the use of urethral bulking agents (UBA) appear to be very promising. UBA, particularly Macroplastique, are significantly
associated with a lower intra- and postoperative complication rate than MUS, showing at the same time a similar subjective satisfaction rate.
However, few studies in the literature have evaluated the effectiveness of MPQ in patients with MUI, and none have evaluated the effects of MPQ on the urgency component.

MATERIALS AND METHODS

This is a retrospective analysis of prospectively collected data performed in two tertiary level centers. We considered all women who came to our units from January 2019 and June 2023, complaining of symptoms of SUI and OAB, dry or wet, with a urodynamically confirmed diagnosis of MUI

Exclusion criteria were concomitant POP greater than stage 1 according to the POP quantification system, voiding dysfunction (postvoid residual >100 ml evaluated by ultrasound) and women with history of radical pelvic surgery or psychiatric and neurologic disorders.
46 patients who met the inclusion criteria and who underwent the MPQ procedure were considered for the analysis.

RESULTS

At the 1-year of follow-up, 33 out of 46 patients (72%) were objectively cured at stress test and 30 out 46 patients (65%) were objectively cured at pad-test, while 72% of women (33 out 46) declared themselves subjectively cured.
Furthermore, we found a statistically significant improvement of both ICIQ-SF score (14 versus 4; p: 0.0001) and ICIQ-OAB score (15 versus 5.5; p: 0.0001) from the baseline to 1 year after MPQ procedure.
Overall OAB cure rate was recorded in 16 out 46 patients (35%). Among 30 other patients, 7 required a further therapy for OAB such as botulinum toxin or combination therapy (anti-muscarinic plus beta-adrenergic). Of these 4 women had resolution of OAB symptoms.

INTERPRETATION OF RESULTS

We have shown that MPQ is an effective procedure on OAB symptoms in a proportion of women with MUI, whose pharmacological treatment fails.
We found that more than one-third of this population achieved total resolution of OAB symptoms and significant improvement in these symptoms in the overall study population.
This is why only 15% of women required a further treatment for OAB one year after surgery. In addition, we found a high overall objective (72%) and subjective (72%) cure rate of MUI symptoms.

CONCLUSIONS

We have shown that MPQ is an effective option for female MUI, not only for the SUI component but also for OAB symptoms in women with MUI, after pharmacological treatment failure.

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79 - A REAL-WORLD EVALUATION TO ASSESS THE BURDEN OF CHRONIC COUGH IN URODYNAMIC STRESS INCONTINENCE (USI) PATIENTS

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INTRODUCTION AND AIM OF THE STUDY

Pathological cough is one of the most common symptoms for medical consultations in primary and secondary care.[1]. Cough can be attributed to specific diseases and is defined as chronic when it lasts 8 weeks or more.[2] It is reported that 63.3% of women presenting for evaluation of CC reported the presence of Stress Urinary Incontinence (SUI).[3] In contrast, little is known about the prevalence of CC in females presenting for evaluation of stress urinary incontinence. The aim of this study was to investigate the prevalence of CC in females with urodynamic stress urinary incontinence (USI) and to understand the impact on quality of life (QoL) using both subjective and objective outcomes.

MATERIALS AND METHODS

A non-interventional, cross-sectional study of consecutive female patients with USI were recruited. Participants were screened for self-reported chronic cough (defined as a cough for more than half the days in a week, or 8 or more continuous weeks within the last year). All completed validated questionnaires for self-reported urinary incontinence (UI) severity and frequency (ICIQ-UI SF), UI specific QoL (ICIQ-LUTSQol), generic health status (EQ-5D-5L) and work productivity and activity impairment (WPAI). Participants with CC completed a cough severity numerical rating scale (NRS) and cough specific QoL questionnaire (Leicester Cough Questionnaire, LCQ).

RESULTS

A total of 100 participants were recruited; mean age (SD) 57.7 (14.0) years, parity 2.0 (0.9), 53% post-menopausal and 84% White. In total, 18% had ever experienced a chronic cough; 13% were currently experiencing a chronic cough. 83% of those ever-experiencing CC had been diagnosed by a health care professional.
Participants with CC had worse generic health status on the EQ-5D-5L compared to those without and had a higher BMI (both P=0.015). Urinary incontinence-specific severity and health status scores were worse in participants with CC compared to those without, albeit not statistically significant (all p>0.165).

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Table 1 details the demographics and mean questionnaire scores according to CC status.

INTERPRETATION OF RESULTS

Respondents who have ever experienced CC reported their general health status and QoL to be lower and that their USI had a greater impact on their QoL. They reported more visits to their GP, using therapy / counselling and utilising their pharmacist compared to the non-CC cohort. They were more likely to be on long term sick leave or disability or have a greater percentage of absenteeism from work. Those ever experiencing CC also reported more severe and frequent symptoms of SUI, and were more likely to be prescribed continence products compared to those never experiencing CC (44% vs 27%) and managed conservatively. Individually, they spent more money on specially adapted clothing to help manage SUI.
There are some limitations to this study as it is from a single centre and was a convenience sample so the prevalence may not be accurate for our population or the general population. There were also some challenges with missing date due to mixed methods (paper and electronic) for data collection.

CONCLUSIONS

This is the first study to report the prevalence of chronic cough in female patients with USI. CC in USI was associated with worse general health status and additional burden in those women. Future studies should investigate the magnitude of the additional burden that CC places on women with USI and the impact of CC on healthcare utilisation in patients with USI.

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Table 1.

Characteristic		**Chronic cough Status**		
	All (N=100)	Yes (Ever) (N=18)	Yes (Current) (N=13)	No (N=82)
Age (Mean)	57.7	56.8	53.3	57.9
BMI (Mean)	28.4	32.3	32.6	27.5
Parity (Mean)	2.0	1.9	2.1	2.1
Post menopause	53%	67%	62%	50%
CC Dx by HCP	17%	83%	77%	2%
Cough severity (mean) (0-no cough – 10-worst)	N/A	7.7	8	N/A
Severity of USI *Mild* *Moderate* *Severe*	 30 26 44	 3 (17%) 2 (11%) 13 (72%)	 3 (23%) 1 (8%) 9 (69%)	 27 (33%) 24 (29% 31(38%)
Frequency of SUI on coughing *<1 x week* *1 x week* *>3 x weeks* *Daily*	(n=94) 18% 13% 23% 43%	(n=18) 11% 0 17% 72%	(n=13) 15% 0 23% 62%	(n=76) 19% 16% 25% 39%
EQ5D[a] Mean SD	(n=95) 0.7 0.28	(n=17) 0.4 0.41	(n=12) 0.5 0.4	(n=78) 0.8 0.2
EQ5D VAS[b] Mean SD	(n=97) 68.1 17.43	(n=16) 55.5 18.34	(n=12) 61.6 16.24	(n=81) 70.6 16.23
ICIQ-UI SF[c] Mean SD	(n=95) 12.9 4.85	(n=17) 14.7 5.47	(n=12) 14.8 6.15	(n=78) 12.5 4.66
ICIQLUTSQoL[d] Mean SD	(n=80) 47.7 14.98	(n=14) 50.4 18.32	(n=12) 51.8 19.50	(n=66) 47.2 14.28
LCQ[e] Mean SD	 n/a n/a	 11.7 5.41	 12.2 5.68	 n/a n/a

a. Range: 0 (worse than dead) – 1 (full health); b. Range: 0 (worst imaginable health) – 100 (best imaginable health); c. Range 0 – 21, higher scores indicating increased impact; d. Range 19 – 76, greater values indicating increased impact on quality of life; e. Range 3 – 21, higher score indicating a better quality of life

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80 - PLASTIC WASTE IN PERSONAL HEALTHCARE AND TOPICAL OESTROGEN APPLICATOR. WHAT WOMEN WANT.

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INTRODUCTION AND AIM OF THE STUDY

The environmental harm caused by plastic waste is increasingly acknowledged[1]. Plastic products in healthcare have been estimated to account for 30% of all healthcare waste [2]. A typical prescription of topical oestrogen Ovestin ® includes one reusable plastic applicator. In contrast, Vagifem ® provide once daily, single-use plastic applicators. User preferences and patients' views about the role of plastic in personal healthcare are not fully understood.

We aim to conduct a service evaluation of user experience with topical oestrogen applicators, their views on plastic waste in personal healthcare, and their preference for alternative applicator materials.

MATERIALS AND METHODS

Topical oestrogen users attending routine urogynaecology outpatient clinics were requested to complete a mixed method questionnaire as part of a service evaluation looking at the user experience of the applicators provided and the impact on the environment. Statistical analysis was conducted using SPSS version 29.

RESULTS

One hundred thirty responses were collected, consisting of 73 Ovestin users and 57 Vagifem users. The mean age was 66.6 years (range 49 – 85), and the mean duration of use was 35.5 months (0.5 – 180). The discontinuation rate was 24.7% and 34.6% for Ovestin and Vagifem users, respectively. Less than 2% experienced side effects in both groups. Satisfaction with applicators and ease of use were similar in both groups. There was a higher report of the product being "messy" (37.5% versus 19.2%, p = 0.028) and "not hygienic" (47.9% versus 18.9; p <001) by Ovestin users.

When considering the impact on the environment and type of applicators. Women <65 years demonstrated a greater concern about plastic use and the impact on the environment compared to women over 65 years (81.% versus 56.9%; *p*= 0.002). In addition, the younger cohort showed a preference for reusable applicators (66.2%) compared to single-use applicators (33.8%) *p*=0.005. There was no statistically significant difference in preference for women over 65 years. Only 24.6% and 39.1% of women < 65 years would prefer applicators made of metal or cardboard, respectively.

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INTERPRETATION OF RESULTS

Environmental consciousness and the role of plastic waste are increasing. Results demonstrates that younger post-menopausal women showed greater concern for plastic waste and its impact on the environment, with a preference for reusable products. Manufacturers of health products and prescribers should be aware of this growing trend. With similar overall satisfaction and side-effect profiles, users should be made aware of the different types of applicators available to make an informed decision as to which product to choose. More research is required in this area.

CONCLUSIONS

This study provides valuable insights into users' experiences with various topical vaginal oestrogen applicators. It highlights the significant concern, particularly among younger post-menopausal women, regarding the environmental impact of single-use plastic applicators for topical vaginal oestrogen therapy. It underscores the growing trend towards environmental sustainability in healthcare practices whilst emphasising the importance of offering diverse applicator options to accommodate users' varying preferences and needs. As patient adherence to treatment is closely linked to the efficacy and ease of medication administration, healthcare providers play a pivotal role in educating users about different treatment options and guiding them to make informed choices. Moreover, manufacturers and policymakers should consider these findings to ensure they cater to users' preferences for reusable options and support sustainable healthcare practices.

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81 - PROTRACTED POSTPARTUM URINARY RETENTION: RISK FACTORS, TREATMENT, AND EFFECT ON PELVIC FLOOR DYSFUNCTION

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INTRODUCTION AND AIM OF THE STUDY

Postpartum urinary retention (PUR) is an underdiagnosed condition occurring in the first twenty-four hours following delivery. Incidence rates vary considerably, ranging from 1.7 to 14.6% depending on the source(1), though poor recognition of this condition makes estimation of the true incidence difficult. Management of PUR varies considerably internationally, despite the existence of standardised protocols(2).

Generally, women with PUR have minimal long-term sequelae, however, the effect of PPUR is less clear and has the potential to cause more severe voiding dysfunction in this group. Thus, this study aimed to examine the risk factors, treatment, and effect on pelvic floor dysfunction of protracted postnatal urinary retention.

MATERIALS AND METHODS

This was a case-control study. Women diagnosed with postpartum urinary retention (PUR) from January 2015 to December 2023 in our institution were identified from a hospital database. Protracted postpartum urinary retention (PPUR) was defined as any woman who required intermittent self-catheterisation (ISC) following the removal of their indwelling catheter. All women with PPUR were included in this study as cases. A matching number of women with PPUR who did not require ISC were included as controls. These controls were randomly selected from the hospital database. The International Consultation on Incontinence Questionnaire Female Lower Urinary Tract Symptoms Module (ICIQ-FLUTs) was posted to all women along with a patient information leaflet and consent form. This study was approved by our hospital research and ethics committee.

RESULTS

From January 2015 to December 2023, 491 women had PUR and of these, 40 women had PPUR. The overall incidence of PUR was 6.9/1000 deliveries and the incidence of PPUR was 0.6/1000 deliveries. One woman was included twice due to recurrent PPUR in a subsequent pregnancy while a further five women were identified from written records from 2014, giving a total of 44 women with PPUR. Of the women with PPUR, 11 responded to the postal questionnaire, while nine women with PUR not requiring ISC responded, giving a total response rate of 22.7% (20/88).

The median age of women at delivery was 34 (range 19–40) and the median follow-up was six years (range 1–10). Of all participants, 38 (43.2%) delivered spontaneously, 27 (30.7%) had a vacuum-assisted delivery, 15 (17.0%) had a forceps delivery, seven (8.0%) had a forceps delivery following a failed vacuum delivery, and one (1.1%) woman was delivered by emergency caesarean section.

Women with PPUR were younger, had a longer length of indwelling catheter use, and a longer second stage of labour. These women had more second-degree tears and episiotomies when compared to those with non-protracted urinary retention. Lastly, women with PPUR had more forceps deliveries and all sequential instrumental deliveries were in the PPUR group.

ICIQ-FLUTs responses

Thirty percent (6/20) of women reported frequency of >8 times per day and 80% reported getting up once or twice per night to urinate. Seven women (35%) described urinary urgency. OAB bother scores were low across all these questions (median 2.5, IQR 0 – 7.75). Four women (20%) reported bothersome-UUI (incontinence more than 'occasionally'). There were no differences in nocturia (p = .788), frequency (p = .809), urgency (p = .502), or UUI (p = .575) between those women with non-protracted and protracted PUR.

Hesitancy before micturition or straining to empty their bladder more than 'occasionally' was reported by six women (30%) while 45% (9/20) of respondents described stopping and starting while micturating more than 'occasionally'. There were no differences in hesitancy (p = .101), stopping and starting (p = .365), or straining (p = .306) between the two study groups. Seven (35%) women reported SUI 'occasionally' and only one (5%) woman reported it as 'all of the time'. There was no difference in the prevalence of SUI (p = .233) between study groups.

Bladder pain was reported as 'none' or 'occasionally' by 18 (90%) women, with the remaining two women describing pain as 'sometimes'.

INTERPRETATION OF RESULTS

This study has shown that PUR requiring intermittent self-catheterisation is an uncommon clinical entity and appears to have minimal sequelae for women. Symptoms reported by women with PPUR are similar to those with non-protracted PUR. Comparison of questionnaire responses is challenging given that most studies in the literature do not incorporate a validated patient-reported outcome questionnaire. A small study from the Netherlands which used the Urogenital Distress Inventory (UDI-6), reported 12% of women having bothersome OAB symptoms at one-year post delivery(3). Our figure of 16.6% for 'bothersome' UUI is similar, though direct comparison between our questionnaires is difficult given the UDI-6 primarily measures symptom impact on quality of life.

Predicting postpartum urinary retention remains a challenge. Operative vaginal delivery has been highlighted as the only consistent risk factor for PPUR in a recent meta-analysis and this is replicated in our cohort. Women with PPUR had more forceps deliveries and accounted for all the sequential instrumental deliveries in our study.While sequential instrumental delivery has been linked to higher rates of OASI and PPH(17), its contribution—and indeed vaginal delivery in general—to the pathophysiology of PPUR is not clear.

Inconsistent definitions of PUR are probably to blame for some of the contradictions in the literature. A recent expert reviewhas suggested three such definitions. (1) Overt PUR: defined as the inability to void six hours after a vaginal delivery or catheter removal following a caesarean section. (2) Covert PUR: defined as urinary symptoms or a postvoid residual volume of greater than or equal to 150 mL after a spontaneous void, as measured by ultrasound or catheterisation. (3) Persistent PUR: urinary retention lasting longer than three days following delivery which requires catheterisation. International adoption of these definitions may help homogenise research in the future.

We consider our results to be robust as we had a precisely defined group of participants, including only those who required ISC or IDC and used a well-validated questionnaire to capture women's current symptoms. There are several limitations worthy of discussion such as our low response rate to the questionnaire portion of the study—something typical of postal-based research. This remains the biggest limitation of the study. We were limited by a small sample size, though given the rarity of protracted PUR, this limitation will be common to any work in the area.

CONCLUSIONS

PUR is a rare entity with minimal sequelae. Protracted PUR is even rarer again and does not appear to be associated with any further deterioration in urinary dysfunction. Longer-term follow-up would be helpful; however, women can be reassured in the shorter term that there appear to be minimal sequelae following protracted postpartum urinary retention.

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82 - COMPARISON OF SURGICAL AND FUNCTIONAL OUTCOMES BETWEEN PATIENTS WITH MRKH SYNDROME AND COMPLETE ANDROGEN INSENSITIVITY SYNDROME UNDERGOING DAVYDOV'S PROCEDURE FOR THE CREATION OF A NEOVAGINA

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INTRODUCTION AND AIM OF THE STUDY

Congenital vaginal agenesis is the absence or underdevelopment of the vagina from birth. It is mainly associated with two conditions: Mayer-Rokitansky-Küster-Hauser Syndrome (MRKH Syndrome, also known as Müllerian agenesis), and Complete Androgen Insensitivity Syndrome (CAIS, also known as Morris Syndrome). MRKH Syndrome is characterized by congenital absence of the uterus, cervix, and upper portion of the vagina, resulting from failed embryonic development of Müllerian ducts in 46, XX females who are otherwise phenotypically normal. CAIS patients have a karyotype 46, XY. They have male gonads (the testes) but appear phenotypically as women. Most mutations implicated in CAIS are typically situated within the hormone-binding domain of the androgen receptor. These mutations prevent androgens from playing their role, despite the androgen level being normal. The absence of the uterus, cervix, and proximal vagina can be attributed to the effect of anti-müllerian hormone produced by Sertoli cells of the testis. One of the safest and most effective surgical procedure used to create a neovagina is the laparoscopic Davydov's technique. With this method, a neovagina is constructed using the patient's peritoneum in a combined laparoscopic and vaginal approach. This study aims to compare the surgical and functional outcomes in patients undergoing laparoscopic Davydov's procedure for the creation of a neovagina.

MATERIALS AND METHODS

This comparative retrospective cohort study enrolled a total of 28 patients, 21 of them with MRKH Syndrome (Group 1) and 7 affected by CAIS (Group 2). Patients in the two groups were matched for age, trying to minimise the age difference between the two groups at the time of surgery. All the patients underwent laparoscopic Davydov's procedure for the creation of a neovagina from January 2017 to May 2023. After surgery, all patients were instructed to use vaginal dilators covered by an estrogen-based gel for two hours daily. Patients were followed up at 3, 6 and 12 months after surgery. We compared surgical and functional parameters for the two groups of patients, such as the main duration of surgery, pre and post operative haemoglobin levels, presence of sexual activity 12 months after surgery, any presence of complications (urinary and sexual disorders, alterations of anorectal functionality), data about rehabilitation including neovagina's length, width and epithelization during the follow up.

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RESULTS

Mean surgery duration for Group 1 was 90 minutes comparing to 74 minutes for the Group 2 ($p = 0.0375$). Haemoglobin dropped 2.8 g/dL in women with MRKH Syndrome versus 1.91 g/dL in patients affected by CAIS ($p = 0.034$). During follow-ups at 3, 6 and 12 months post-surgery, vaginal length remained slightly longer in Group 1, while vaginal width remained slightly longer in Group 2 (Figure 1 and 2). None of these differences were statistically significant. There were no statistically significant differences in vaginal walls epithelialisation at 6 and 12 months after surgery (Figure 3). In contrast, it was observed that the epithelialisation of the vaginal apex was significantly greater in Group 1 than in Group 2 ($p = 0.023$) (Figure 4). At the end of the 12 months follow-up, 17 out of 21 patients with MRKH Syndrome and 4 out of 7 patients with CAIS had satisfactory sexual intercourse without difficulty and/or discomfort. The remaining patients did not try by choice. There were no statistical significative differences in sexual activity 12 months after surgery between Group 1 and Group 2.

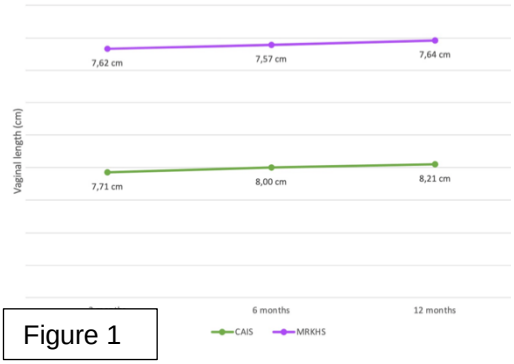


Figure 1

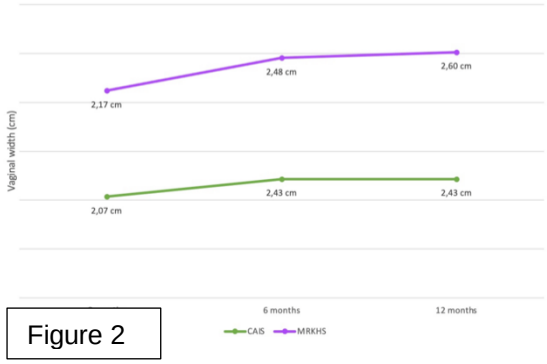
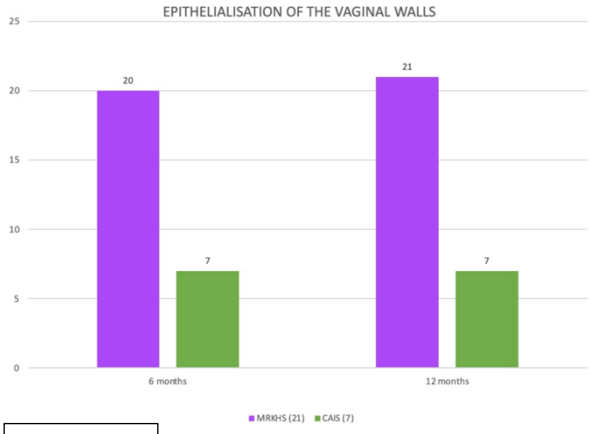


Figure 2



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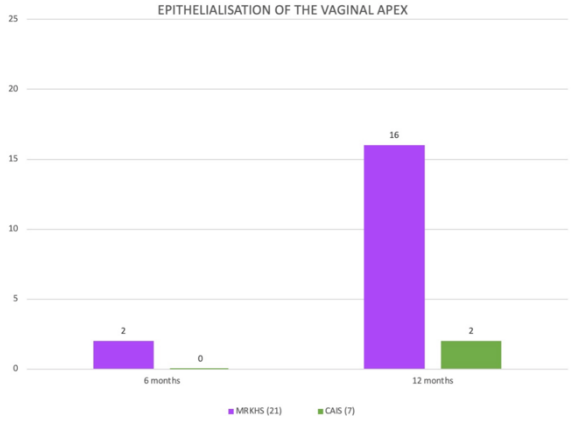

Figure 4

Two complications were observed in patients with MRKH Syndrome: one patient had a post-defecatory vaginal tear that was surgically repaired. The other patient developed a recto-vaginal fistula probably as a result of trauma from vaginal dilator insertion. The fistula was also surgically repaired. In Group 2, only one patient experienced a complication: due to a peritoneal bundle formed after surgery, the patient developed ma intestinal occlusion. Surgery was performed to free the occluded intestinal loop.

INTERPRETATION OF RESULTS

Davydov's combined laparoscopic and vaginal approach has proven effective and safe in creating a neovagina in both MRKH Syndrome and CAIS patients. At 12 months follow-up, excellent anatomical results were achieved, with a mean neovaginal length of 7.64 cm in MRKH Syndrome patients and 8,21cm in CAIS patients. The mean vaginal width at 12 months was 2.60 cm in Group 1 and 2.43 cm in Group 2. At 12 months, 100% of patients in both groups had complete epithelialisation of the vaginal walls. The vaginal apex was completely epithelialized in the 76.2% of MRKH Syndrome patients and only in 28.5% of patients affected by CAIS. The reason for this statistically significant difference are still unclear and further studies would be needed. The treatment to which patients in the two groups were subjected is effective in ensuring satisfactory sexual intercourse for all patients who had it. Surgery lasted significantly longer in patients with MRKH Syndrome and these patients also lost significantly more blood during surgery. It is difficult to attribute precise and unambiguous causes to these differences because multiple individual and surgeon-dependent factors come into play. Davydov's approach can be considered absolutely safe with very limited risks of adverse events (we recorded 3 complications in total in both groups).

CONCLUSIONS

The creation of a neovagina using Davydov's surgical approach provides excellent anatomical and functional outcomes in both MRKH Syndrome and CAIS patients. The surgical approach is a safe procedure with low risk of adverse events, ensuring that patients can have satisfactory intercourse without difficulty. In order to fully understand the differences between the two groups and their underlying causes, further studies are needed.

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83 - SHORT–TERM OUTCOMES OF POLYGLACTIN VERSUS POLYDIOXANONE IN PRIMARY FASCIAL PROLAPSE REPAIR

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse impacts the quality of life in 50% of female population. The rate of recurrence remains high for native tissue prolapse repair. With concerns around mesh complications and permanent sutures, most prolapse surgeries are being done with native tissue using absorbable sutures. There is limited data comparing different absorbable suture materials, including multifilament polyglactin (vicryl, polysorb) and monofilament polydioxanone (pds). Some previous data show polyglactin have better QOL scores and urinary incontinence scores. There is also suggestion of lower risk of infection with monofilament sutures. We compared short-term outcomes (6-12 months postoperatively) of primary prolapse repair in these two absorbable sutures in our centre over a period of 13 years.

MATERIALS AND METHODS

This was a retrospective review of women undergoing primary prolapse repair from January 2009 to December 2022. Primary repair done with vicryl, polysorb and PDS were included. Any data with missing follow-up information was excluded from the analysis. All baseline data, surgical details and follow-up information at 6 months to 1 year were recorded and analysed using MS Office Excel 2010. Student t-test was applied to compare means of continuous variables and fishers-exact test was applied to compare the categorical outcomes. P-value of less than 0.05 was considered statistically significant.

RESULTS

A total of 714 patients undergoing primary repair were included in the analysis. Anterior and posterior repair was done in 360 patients, anterior repair only in 203, and posterior repair only in 151 patients. We analysed the data by grouping all anterior and all posterior repair together. There were 563 primary anterior repairs and 511 primary posterior repairs. Table I and II show the comparison of baseline characters and recurrence rates between polyglactin (vicryl and polysorb) and Polydioxanone (pds) in both groups. There were no statistical differences found in the recurrence rates of both suture groups. Wound infection rates were also comparable.

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INTERPRETATION OF RESULTS

Overall recurrence rates in Polyglactin (vicryl and polysorb) group were lower at 9.6 % in anterior repair and 10.2% for posterior repair. Recurrence rates in polydioxanone group were 13.9% for anterior repair and 13.2 % in posterior repair. The difference in percentage was not found to be statistically significant. Both sutures had low rates of complications.

CONCLUSIONS

Our analysis shows that both suture materials have low recurrence rates and comparable outcomes for primary native tissue prolapse repair in short-term postoperative period. This is in keeping with previous studies. Long-term recurrence rates should be evaluated for further comparison

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Table - I

All primary AR (n= 563)	Polyglactin (n= 291)	PDS (n= 272)	p-value
Mean Age (yrs) ± SD	62 ± 12.9	61.2 ± 12.1	0.2
Mean BMI (kg/m^2) ± SD	27.9 ± 4.8	27.5 ± 4.7	0.1
Mean Parity ± SD	2.5 ± 1.1	2.4 ± 1.1	0.4
Previous Hysterectomy (%)	26 (8.9%)	35 (12.8%)	0.1
Concomitant VH (%)	105 (36%)	44 (16.1%)	<0.00
Concomitant SSF /SSHP (%)	141 (48.4%)	136 (50%)	0.7
Dyspareunia (%)	5 (1.7%)	8 (2.9%)	0.4
Wound Infection (%)	2 (0.68%)	4 (1.4%)	0.4
Recurrence (%)	28 (9.6%)	38 (13.9%)	0.1
Repeat surgery (%)	13 (4.4%)	27 (9.9%)	0.01

Table -II

All Primary PR (n =511)	Polyglactin (n= 254)	PDS (n=257)	p-value
Mean Age (yrs) ± SD	61 ± 13.1	60.8 ± 12.5	0.4
Mean BMI (kg/m^2) ± SD	28.1 ± 4.8	27.9 ± 4.8	0.3
Mean Parity ± SD	2.4 ± 0.9	2.5 ± 1.1	0.1
Previous Hysterectomy (%)	22 (8.6%)	38 (14.7%)	0.03
Concomitant VH (%)	59 (23.2%)	37 (14.3%)	0.01
Concomitant SSF /SSHP (%)	157 (61.8%)	121(47%)	0.00
Dyspareunia (%)	8 (3.1%)	5 (1.9%)	0.4
Wound Infection (%)	5 (1.9%)	5 (1.9%)	1
Recurrence (%)	26 (10.2%)	34 (13.2%)	0.3
Repeat surgery (%)	16 (6.2%)	27 (10.5%)	0.11

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84 - FUNCTIONAL MAGNETIC STIMULATION IN THE TREATMENT OF WOMEN'S URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) occurs as a common problem, especially in postmenopausal women, often related to pelvic organ prolapse (*POP).* Functional magnetic stimulation (FMS) is a novel, effective therapy method for UI based on extracorporeal treatment of pelvic floor with powerful magnetic field. FMS is a convenient, non-invasive treatment inducing automated and standardized pelvic floor muscle training. The other chronic urinary disorders, e.g. chronic or interstitial cystitis, lower urinary tract symptoms (LUTS), etc. could also be successfully treated by the FMS.

MATERIALS AND METHODS

A prospective study started in October 2017 using the FMS device (Magneto Stym, Iskra Medical, Slovenia**)** with a magnetic field power of 2 Tesla and a frequency range of 1-80 Hz. The patient was seated and dressed on an electromagnetic chair. Magnetic stimulation of the muscles is conducted by an electromagnetic coil built into the seat and controlled by an external unit. The stimulus intensity is gradually increased up to the limit of tolerability as indicated by the patient. All patients were treated with FMS twice a week for 8 weeks (16 therapies in total) using the treatment protocol adequate for the type of urinary incontinence. Each treatment lasted 20 minutes using the preset treatment protocol. The results were obtained using a patient self-evaluation questionnaire (PFDI-20, PFIQ-7) and collected before starting the treatment and after finishing the last therapy. Patients with a history of epilepsy, severe cardiac arrhythmias, a pacemaker or metal implants, as well as concurrent pregnancy, malignancy or acute pelvic infection has not been included in the study.

RESULTS

From a total of 179 women, 56 (31.3%) patients suffered from stress urinary incontinence (SUI), 86 (48.0%) from mixed urinary incontinence (MUI), and 37 (20.7%) from urge urinary incontinence (UUI). POP (gr.≤3) has also occurred in 35 (19,6%) patients, predominantly in menopausal ones. In patients with SUI, 80.3% were completely dry after the therapy, 16.1% showed significant improvement, and 3.6% had not any improvement. In patients with MUI, 70.9% were completely dry, 26.8% showed significant improvement, and 2.3% had not any improvement. In patients with UUI, 59.5% were completely dry, 29.7% showed significant improvement, and 10.8% had not any improvement. The frequency of leakage in patients with SUI decreased from 5.9 to 3.2, in patients with MUI from 6.3 to 2.9, and in patients with UUI from 7.8 to 4.5 episodes per day. A significant reduction of nocturia episodes for all types of incontinence has also been reported. Totally 128 (71.5%) patients have been completely satisfied with therapy, 43 (24.0%) have been partially satisfied, but only 8 (4.5%) patients have not been satisfied as expected.

INTERPRETATION OF RESULTS

These results approved the FMS as a safe, non-invasive method for SUI or/and POP, with high clinical efficacy and significant improvement of the quality of life in treated patients. FMS treatment showed immediate and effective outcomes in properly chosen patients, especially in the frequency of micturition, episodes of incontinence, and nocturia. Also, frequency and urgency symptoms of patients were significantly improved by this method.

CONCLUSIONS

FMS has been presented as a reliable and repeatable, effective treatment for UI in women with encouraging initials efficacy and a prospective future. FMS is a suitable and compliant treatment option for all types of female UI. Favourable feedback and improvement in urinary incontinence symptoms as presented in our study confirms previous literature reports that magnetic stimulation is an effective, non-invasive therapy for all types of incontinence. However, further studies are required to determine other diagnostic parameters and find out the wither therapy indications.

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85 - ROBOTIC VENTRAL RECTOPEXY FOR POSTERIOR PELVIC FLOOR DISORDERS TREATMENT

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INTRODUCTION AND AIM OF THE STUDY

Defects that involve the posterior pelvic compartment may lead to the so-called posterior pelvic floor disorders. The most common mechanical posterior pelvic floor disorders are the rectocele, the peritoneocele/enterocele and the rectal prolapse, causing obstructed defecation symptoms and more generally anorectal symptoms. Depending on the severity of symptoms and imaging findings, surgical repair may be necessary. Different approaches for surgical treatment of posterior pelvic floor disorders have been described, such as transvaginal rectocele repair, abdominal posterior sacrocolpopexy, ventral rectopexy or stapled transanal rectal resection (STARR). Deterioration of the pelvic floor integrity results with a multicompartmental prolapse among 10-55% of the patients and while sacrocolpopexy representing the standard of treatment for the anterior/apical compartment in case of abdominal approach for prolapse surgery. Therefore, surgeons are currently inclined to perform sacrocolpopexy and rectopexy procedures concomitantly for the correction of multicompartmental prolapse with a multidisciplinary approach. Studies comparing techniques, anatomical and functional outcomes and cost-effectiveness of robotic ventral rectopexy are scarce. The success and safety of robotic mesh rectopexy and whether it should be a gold standard approach for posterior pelvic disorders has not been assessed. The aim of this study was to evaluate the safety and effectiveness of robotic-assisted laparoscopic ventral rectopexy in women with posterior pelvic compartment disorders.

MATERIALS AND METHODS

This is a retrospective study conducted on women who underwent robotic ventral rectopexy (using the Da Vinci surgical system with four robotic arms, Intuitive Surgical Inc., Sunnyvale, CA, USA) in a gynecological setting between September 2018 and March 2023. Women with posterior pelvic floor disorders, such as posterior vaginal wall prolapse and/or obstructive defecation syndrome, were physically evaluated in the lithotomy position both at rest and during straining. Preoperative evaluation included recording medical history, pelvic floor dysfunction symptoms (vaginal protrusion, chronic pelvic pain, urgency urinary incontinence-UUI, stress urinary incontinence-SUI, voiding dysfunction symptoms, anorectal symptoms). All patients underwent imaging, such as defecography or dynamic pelvic MRI, to identify the type of posterior pelvic floor disorder. The degree of vaginal prolapse was recorded according to the pelvic organ prolapse quantification (POP-Q) system described by the International Urogynecological Association (IUGA), while the degree of rectal prolapse was classified according to the Oxford rectal prolapse classification system. Along with rectopexy, sacrocolpopexy was performed in women with anterior and/or apical vaginal prolapse. Surgery was performed following D'Hoore's[1] description of ventral rectopexy. During the 6-month postoperative follow-up, pelvic floor dysfunction symptoms were recorded, and a physical examination was performed. A recurrence of posterior vaginal wall prolapse was considered as a stage ≥ II prolapse according to the POP-Q system. Apical/anterior vaginal recurrences were defined as a stage ≥ II prolapse. Peri- and postoperative complications were evaluated according to the Clavien-Dindo classification. The primary endpoint of the study was to assess anorectal anatomical and functional outcomes at 6-month follow-up in women who underwent robotic ventral rectopexy. The secondary endpoint of the study was the evaluation of intra- and postoperative complications. Institutional Review Board approval was obtained.

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 26 software. Results are presented as mean ± standard deviation for normally distributed continuous variables, median and range for non-normally distributed continuous variables, and as number and percentage for categorical variables. The chi-square test and Fisher's exact test were used to compare categorical variables, where appropriate. McNemar and Wilcoxon tests were used to determine differences between two related groups, where applicable. A p-value < 0.05 was considered statistically significant.

RESULTS

Thirty-four women who underwent robotic-assisted laparoscopic ventral rectopexy during the study period were included. Notably, 38.2% (13/34) of the patients had undergone at least one surgery for anterior prolapse, and 41.2% (14/34) had previously undergone total hysterectomy. Regarding the main anatomical surgical indication for ventral rectopexy, enterocele emerged as the primary surgical indication (15/34; 44.1%), followed by rectal prolapse (12/34; 35.3%) and enterocele with rectal prolapse (7/34; 20.6%). Regarding additional surgical interventions at the time of ventral rectopexy, 50% of women (17/34) underwent anterior mesh placement for anterior/apical pelvic organ prolapse. Conversion to laparotomy was required in only one case due to the inability to reach the sacral promontory because of abdominal-pelvic adhesions. No intraoperative complications were observed. Regarding postoperative complications, classified according to the Clavien-Dindo system, one patient experienced vaginal mesh exposure, and one patient had an umbilical hernia. At 6-month follow-up, three women had anatomical recurrence of pelvic organ prolapse, with only one case of posterior vaginal wall prolapse recurrence reported. Overall, anorectal symptoms significantly decreased after surgery (23/34; 67.6% vs. 12/34; 37.5%, $p = 0.007$). Individually, digital perineal or vaginal maneuvers to assist defecation (12/34; 35.3% vs. 0/34; 0%, $p = 0.002$) and constipation (13/34; 38.2% vs. 3/34; 8.8%, $p = 0.08$) improved significantly. Anal incontinence (gas or fecal) improved but not significantly (7/34; 20.6% vs. 5/34; 14.7%, $p > 0.05$). Chronic pelvic pain (12/34; 35.3% vs. 0/34; 0%, $p = 0.0002$) and vaginal bulging (32/34; 94.1% vs. 3/34; 8.8%, $p < 0.0001$) significantly improved.

Four patients required reintervention. One patient required immediate reoperation postoperatively for an umbilical hernia, while one woman underwent laparoscopic anterior sacrocolpopexy for apical/anterior prolapse recurrence at 6 months post-surgery, one woman underwent partial resection of vaginal mesh exposure at 2 months post-surgery, and another woman underwent suburethral sling resection for voiding dysfunction at 3-month follow-up.

INTERPRETATION OF RESULTS

In cases of pelvic floor disorders, a multidisciplinary approach has become crucial to provide the best treatment and, in the case of surgical indication, optimal selection of the type of surgery. The current study showed that robotic-assisted laparoscopic ventral rectopexy is safe and effective in women with symptomatic posterior pelvic compartment disorders. Several studies have shown that evaluating multicompartmental prolapse is crucial for planning an adequate surgical strategy, with the advantage of treating all compartments simultaneously during the same surgical intervention[2]. Moreover, to our knowledge, this study is the first to aim to evaluate ventral rectopexy even for an exclusively gynecological indication such as peritoneocele/enterocele. The functional outcomes of our study are encouraging. Indeed, the overall rate of anorectal symptoms significantly improved at follow-up, which is consistent with previous studies. Notably, all anorectal symptoms decreased at follow-up, but only the rates of reduction in constipation and digital anal and perineal maneuvers reached statistical significance. Robotic ventral rectopexy is a safe technique. Indeed, only two procedure-related postoperative complications requiring surgery were observed. The low rate of mesh exposure is related to the abdominal laparoscopic approach without colpotomy. Indeed, in only one case did we have vaginal exposure of the prosthetic material, which was easily treated with partial vaginal resection of the mesh. This study presents some limitations such as the low sample size, the short-term follow-up, the absence of a control group and the retrospective design with all the intrinsic defects of such design. Moreover, we did not assess PFD symptom severity through validated questionnaires. However, this is the first study showing the results of robotic ventral rectopexy for all posterior compartment indications such as the posterior vaginal wall. prolapse (peritoneocele/enterocele) or rectal prolapse in a gynecological setting. An imaging study has been performed in all cases to recognize the typology of posterior pelvic floor dis-order. The systematic use of the surgical technique by the same highly trained urogynecologist can be considered another strength of the study results. Further studies with larger sample sizes and long-term follow-up are necessary to confirm our preliminary results. Nevertheless, for the moment, the results of our study could lead us to the conclusion that rectopexy is an effective and safe technique.

CONCLUSIONS

It can be concluded that robotic-assisted laparoscopic ventral rectopexy has proven to be safe and effective for women with posterior pelvic floor disorders, offering optimal anatomical and functional outcomes. Larger-scale, long-term prospective controlled studies are needed to confirm these preliminary results.

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86 - OUTCOMES OF MIRABEGRON FOR TREATMENT OF OVERACTIVE BLADDER IN WOMEN WITH HYPERTENSION

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INTRODUCTION AND AIM OF THE STUDY

Mirabegron, an established treatment for overactive bladder (OAB), is contraindicated in patients with uncontrolled hypertension. Inevitably, there is concern amongst clinicians and patients regarding its use in well-controlled hypertension. In this study, we investigate the efficacy of mirabegron in well-controlled hypertension and adverse effects associated with mirabegron in this population.

MATERIALS AND METHODS

This retrospective study included women with well-controlled hypertension who used mirabegron for treatment of OAB between 1st of August 2017 to 31st July 2019. Medical notes were reviewed from the time of initiation of Mirabegron up to 12-months post-treatment.

RESULTS

Table 1: Outcome of Treatment

	Before treatment (n = 46)	**After Treatment (n = 46)**
Duration of Treatment (months) (mean ± stdev; range)	5.7 ± 6.2 (0.2-24)	
Frequency (hrs) n (%) (a) <1 (b) 1 - <2 (c) 2 - <3 (d) 3 (e) >3	n = 41 6 (14.0) 18 (41.8) 11 (25.6) 3 (7.0) 5 (11.6)	n = 22 0 8 (36.4) 7 (31.8) 5 (22.7) 2 (9.1)
Frequency (hrs) (median)	1.5 (1 - 2)	2 (1 – 2)
Nocturia (times) (mean ± stdev; range)	n =41 2.2 ± 1.2 (0.5 – 5.5)	n = 23 2.0 ± 0.9 (0.5 – 3.5)
Nocturia (times) n (%) (a) <1 (b) 1 - <2 (c) 2 - <3 (d) 3 (e) >3	n =41 6 (14.6) 10 (24.4) 9 (22.0) 14 (34.1) 1 (2.4) 1 (2.4)	n = 23 2 (8.7) 8 (34.8) 6 (26.1) 5 (21.7) 2 (8.7)
Nocturia (times) (median)	2 (1 - 3)	2 (1 – 2.5)
Urgency n (%) (a) Improved (b) Worsened (c) No change		n = 21 16 (76.2) 0 5 (23.8)
Urge incontinence n (%) (a) Improved (b) Worsened (c) No change		n = 22 19 (86.4) 0 3 (13.6)

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Figure 1: Side effects reported by patients after taking Mirabegron

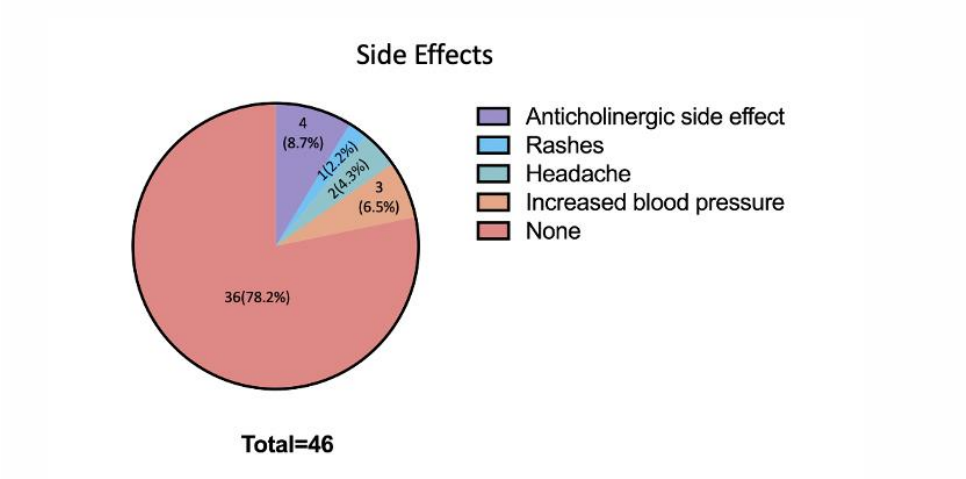
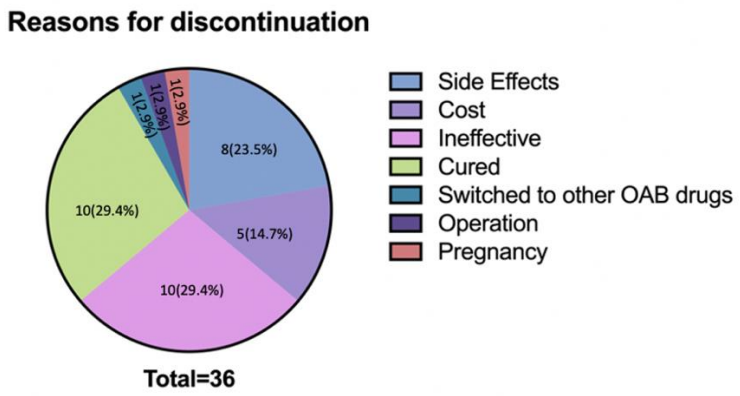


Figure 2: Reasons cited for discontinuation of Mirabegron



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INTERPRETATION OF RESULTS

Forty-six patients with OAB and hypertension were included. Most (n=38,73.6%) patients experienced improvement in OAB symptoms after mirabegron. Median urinary frequency improved from 1.5 hours to 2 hours following mirabegron treatment. Half of the patients stopped experiencing nocturia 1 month after starting mirabegron. Most patients experienced improvement in symptoms of urge (76.2%) and urge incontinence (86.4%). Most patients (n=36,78.2%) of these patients did not experience any side effects at all while a small percentage of the patients (n=4,8.7%) experienced anticholinergic side effects. Three patients (6.5%) experienced increase in blood pressure after mirabegron. Despite symptom improvements, only 29.4% were cured.

CONCLUSIONS

Mirabegron is efficacious in improving OAB symptoms. It is a safe and well-tolerated drug for patients with hypertension which may need to be continued long-term for symptom control. Home blood pressure monitoring may aid earlier detection of worsening control in the small proportion in whom mirabegron is not suitable.

87 - THE EFFECTS OF LEVONORGESTREL-RELEASING INTRAUTERINE DEVICE ON URINARY INCONTINENCE AND FEMALE SEXUAL LIFE

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INTRODUCTION AND AIM OF THE STUDY

Levonorgestrel-releasing intrauterine devices (LNG-IUDs) are one of the most widely used methods of long-acting reversible contraception among contraceptive methods due to their high efficacy and safety, ease of use and cost effectiveness. In many studies, it has been shown that in addition to its use for contraception, it can be used for abnormal uterine bleeding, medical treatment of endometrial hyperplasia, hormone replacement therapy for endometrial protective effect against estrogen. The female lower urinary tract is thought to be the target organ for the action of the sex steroid hormones estrogen and progesterone. Progesterone decreases the tone of the ureter, bladder, and urethra by increasing beta adrenergic stimulation. Urinary symptoms increase during the progesterone-dominant phase of the menstrual cycle and although the exact mechanism is not fully understood, it is thought that progesterone may be responsible for urge symptoms during pregnancy.

The effects of LNG IUD, which has gained an important place in gynecological practice with its increasing usage areas, on women's daily life remain unclear. In various studies, different results have been obtained regarding the effects of LNG-IUD on urinary incontinence and female sexual life, and no consensus has been reached. We aimed to observe the changes related to urinary incontinence and sexual life in the follow-up of patients who underwent LNG-IUD insertion for various reasons.

MATERIALS AND METHODS

Patients who applied to the Gynecology and Menopause outpatient clinic between December 2021 and May 2022 and who were planned to have LNG-IUD insertion for any reason were included in this prospective cohort study. After the study was approved by the university ethics committee (Ethics Committee Approval No: 2021/1984), the patients were informed before the procedure and signed informed consent forms, and then the patients who wanted to be included in the study were identified.

Women of reproductive age between 20-55 years were included in the study. Patients who were postmenopausal or adolescents, had known neurological diseases, were receiving medical treatment for urinary incontinence, or planned surgical treatment were excluded from the study.

Detailed history taking, routine gynecological examinations and transvaginal ultrasonography were performed in the patients who were planned to undergo LNG-IUD insertion. Age, sociodemographic data, medical history, obstetric and gynecological history, height, weight, body mass index values, gynecological examination findings and ultrasonographic findings were recorded.

Stress test was performed in addition to gynecological examination. 24-hour pad test was planned and explained to the patients. Female Sexual Function Index (FSFI) sexual life assessment questionnaire, Incontinence Impact Questionnaire-7 (IIQ-7), Urogenital Disease Inventory-6 (UDI-6) incontinence scoring questionnaires were completed. After insertion of LNG-IUD, patients were called for 1st month, 3rd month and 6th month follow-up visits. At the 1st and 3rd months, routine gynecological examinations were performed, and information was recorded. At the 6th month follow-up, in addition to gynecological examination and ultrasonography, stress test, 24-hour pad test and FSFI, UDI-6, IIQ-7 questionnaires were repeated.

RESULTS

89 patients were included in the study and follow-up was started. 4 patients were operated because of continued abnormal uterine bleeding before the end of the 6-month follow-up period, 2 patients' LNG-IUDs were expulsed, and 3 patients voluntarily left the follow-up. A total of 80 patients who applied to our clinic during the 6-month follow-up period and who could be evaluated at the 0th and 6th months were evaluated.

The mean age of the patients was 39 ± 8 years. The mean number of births and BMI was 3 (range from 2-4) and 28,1 ± 4.9 kg/m^2 respectively. Among the patients, 35 patients (43,7%) were implanted LNG-IUD for abnormal uterine bleeding, 22 patients (27,5%) for contraception, 8 patients (10%) for both pelvic pain and abnormal uterine bleeding, 6 patients (7,5%) for pelvic pain, 6 patients (7,5%) as a component of hormone therapy for premature ovarian insufficiency, and 3 patients (3.8%) for postmenstrual spotting bleeding.

There was no difference between months 0 and 6 in the results of stress test and pad test. In the stress test performed in patients, positivity was found in only 6 patients at both baseline and 6-month evaluation. The 24-hour pad test was positive in 13 patients (16.2%) at baseline, it was positive in 12 patients (15%) at 6 months (p>0.999) While the total score of UDI-6 was lower in the 6th month, there was no difference between the scores of urge urinary incontinence, stress urinary incontinence, small amount of urinary incontinence and difficulty in emptying the bladder in the 0th and 6th months. The mean scores of frequency and pelvic pain were found to be lower in the 6th month compared to the baseline. There was no change in the IIQ-7 total score (Table 1).

When the FSFI scores at 0 and 6 months were analyzed, an increase was found in sexual function scores. When the same questionnaire was analyzed in subgroups, no change was observed in sexual desire, orgasm, and satisfaction inquiries, while arousal, lubrication and pain scores were found to be higher in the 6th month compared to the baseline (Table 2).

INTERPRETATION OF RESULTS

In our study, LNG-IUD insertion had no significant effect on urinary incontinence, but increased FSFI scores regardless of the reason for insertion

CONCLUSIONS

LNG-IUD improved sexual functions but had no effect on urinary incontinence.

Variable	Baseline	6th months	p [1]
IIQ 7 score			0.930
Mean ± SD	0.86 ± 3.39	0.91 ± 3.70	
UDI 6 score			**0.004**
Mean ± SD	2.17 ± 2.77	1.76 ± 2.83	
Frequency			**0.005**
Mean ± SD	0.66 ± 0.91	0.50 ± 0.93	
Urgency urinary incontinence			0.773
Mean ± SD	0.40 ± 0.87	0.41 ± 0.88	
Stress urinary incontinence			0.424
Median (25%-75%)	0.00 (0.00-1.00)	0.00 (0.00-1.00)	
Mean ± SD	0.52 ± 0.95	0.55 ± 0.98	
Pain or discomfort in the lower abdomen or genitalia			**<0.001**
Mean ± SD	0.51 ± 1.02	0.15 ± 0.53	
Small amounts of urine leakage			0.346
Mean ± SD	0.0625 ± 0.4008	0.0875 ± 0.4824	
Difficulty emptying bladder			>0.999
Mean ± SD	0.0375 ± 0.1912	0.0500 ± 0.2710	

[1]Wilcoxon test

Variables	Baseline	6th months	p [1]
FSFI total score			**0.004**
Mean ± SD	23 ± 9	23 ± 10	
Desire			0.313
Mean ± SD	3.33 ± 1.42	3.30 ± 1.34	
Arousal			**0.049**
Mean ± SD	3.98 ± 1.15	4.13 ± 1.22	
Lubrication			**0.014**
Mean ± SD	5.39 ± 0.83	5.52 ± 0.76	
Orgasm			0.167
Mean ± SD	3.47 ± 1.57	3.65 ± 1.66	
Satisfaction			0.312
Mean ± SD	4.39 ± 1.23	4.50 ± 1.34	
Pain			**0.002**
Mean ± SD	5.09 ± 1.29	5.44 ± 0.97	

[1]Wilcoxon test

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88 - VALUE OF URODYNAMICS IN IDENTIFYING AND MANAGEMENT OF OCCULT URINARY INCONTINENCE; THE EXPERIENCE OF TERTIARY UROGYNECOLOGY CLINIC

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) and stress urinary incontinence (SUI) often co-exist because they share same risk factors and are both caused by anatomical defects in the pelvic floor. However, some women with severe prolapse develop urinary incontinence only after prolapse surgery a condition called de novo SUI. The most important risk factor for de novo SUI is occult stress urinary incontinence, which is defined as the presence of SUI that is only observed after prolapse reduction. The incidence of occult SUI has been reported in a wide range of 6-83% due to the different methods used for prolapse reduction. Although occult SUI has been demonstrated, there is no consensus on how to manage these patients. Some surgeons perform prophylactic anti-incontinence surgery in all prolapse patients, while others use a two-stage approach or perform occult SUI evaluation and perform incontinence surgery in addition to prolapse surgery depending on the results.

Our aim was to report the results of patients who underwent urodynamic studies before prolapse surgery and who underwent incontinence surgery according to the results of these studies.

MATERIALS AND METHODS

This retrospective cohort study included all continent women with negative stress test results and ≥ stage 2 prolapse by history and clinical assessment who underwent surgery for symptomatic POP between January 2012 and December 2021. Women who underwent vaginal surgery for anterior and/or apical compartment prolapse and had a minimum follow-up of 12 months after surgery were eligible for analysis. Exclusion criteria were symptomatic SUI prior to surgery and diagnosis of malignancy requiring additional surgery and/or radiotherapy. The stress test was performed in the dorsal lithotomy position with the bladder filled with 300 ml saline with prolapse reduction. The prolapse was reduced with a swab. In addition, all women were assessed preoperatively for voiding function with urodynamics, including uroflowmetry, multichannel cystometry, and a pressure-flow study using an MMS UD-2000 urodynamic system (MMS UD-2000; Medical Measurement System), performed by trained urogynecologists using a standardised protocol, with prolapse reduction using a swab, taking care to avoid urethral compression. Prolapse repair was performed based on the prolapsed compartment. If the patient had SUI on urodynamic studies after reduction of the prolapse, detailed counseling was given by three attending urogynecologists about the benefits and risks of anti-incontinence procedures, and an anti-incontinence procedure was offered in combination with vaginal surgery. If the patient had no symptoms of SUI and no urodynamic SUI was observed, no anti-incontinence procedure was performed.All patients were followed up postoperatively at 4 weeks, 6 months, and 12 months, then annually thereafter. Postoperative evaluation included a physical examination with a stress test, an interview about the symptoms of POP and SUI, use of incontinence pads, and micturition difficulties.

RESULTS

A total of 289 patients were included in the study. The demographic data of the patients are shown in Table 1. When a total of 289 patients were evaluated, 53 of the patients (18.3%) had a positive stress test on urodynamic studies. Although 6 of these patients (2.1%) had leakage on urodynamic studies, they did not accept anti-incontinence surgery and only 1 of these patients had leakage in the postoperative period. In the other 47 patients who had a positive stress urodynamic test and underwent incontinence surgery, only 4 (8.5%) had postoperative stress incontinence and only 1 of these patients (2.1%) required reoperation for SUI (Figure 1). Voiding dysfunction developed in 1 patient (2.1%) who underwent incontinence surgery and de novo urgency incontinence occurred in 3 patients (6.4%).

SUI developed after prolapse surgery in 10 patients (4.2%) with a negative preoperative urodynamic stress test, and incontinence surgery was required in 3 of these patients (1.3%). In 21 patients (7.3%) whose urodynamic stress test was negative, the stress test was positive with prolapse reduction in the preoperative period and none of these patients

developed SUI postoperatively. Only 19 out of 53 patients with urodynamic evidence of SUI had a positive stress test with prolapse reduction.

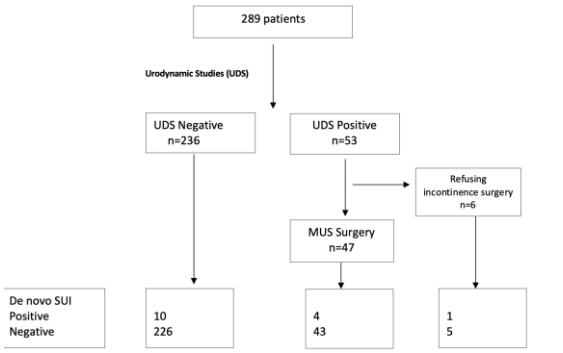
INTERPRETATION OF RESULTS

Today, individualized approaches are becoming more popular in all areas of medicine. Patients need to be involved in the decision-making process. Continental women with pelvic organ prolapse should be informed about the risk of urinary incontinence after surgery. In patients with advanced pelvic organ prolapse, urodynamic studies can be used to identify those with occult SUI who may benefit from surgery for urinary incontinence.

CONCLUSIONS

Urodynamic studies are useful in identifying occult SUI prior to prolapse surgery and in guiding management decisions.

Variables	**Mean ± SD or n (%)**
Age at surgery (years)	59.53 ± 10.92
BMI (kg/m^2)	29.83 ± 8.70
Number of vaginal delivery	3.27 ± 1.73
Preoperative stress test Positive Negative	 40 (13.8%) 249 (86.2%)
Preoperative leakage in stress provacation during cystometry Positive Negative	 53 (18.3%) 236 (81.7%)
Q-type test	55.92 ± 21.61
24-h pad test (gr)	13.66 ± 37.49
Maximum cystometric capacity (ml)	414.81 ± 131.22
Q- maximum (ml/s)	24.23 ± 10.98
Follow-up period (months)	30.6 ± 20.64



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89 - IMPACT OF BMI ON MEDIUM AND LONG TERM SUCCESS RATES OF LAPAROSCOPIC COLPOSUSPENSION

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INTRODUCTION AND AIM OF THE STUDY

Stress incontinence is a very common problem, and surgical treatment is the mainstay of management when pelvic floor muscle training has been ineffective. In parts of the world where the use of the tension-free vaginal tape is not permitted, colposuspension is considered the gold standard for treatment, and is usually performed laparoscopically with or without robotic assistance. The aim of our study was to evaluate the impact of BMI on the medium and long-term success rates of colposuspension.

MATERIALS AND METHODS

Data was collected prospectively from patients who wished their stress incontinence corrected with laparoscopic or robotic colposuspension. All patients had a urodynamic diagnosis of urodynamic stress incontinence or mixed urodynamic stress incontinence and detrusor overactivity. All cases were discussed at the pelvic floor multidisciplinary team meeting prior to listing. ICIQ-UI and ICIQ-OAB questionnaires were completed pre and postoperatively. Success was defined as patients reporting an improvement in their symptoms or an improvement in the ICIQ-UI scores. The patients were then divided into two groups for analysis with a cut off BMI of 30.

RESULTS

55 patients underwent laparoscopic or robot assisted colposuspension between January 2019 and May 2024. The mean age was 49 (range 35-72). The mean BMI of our cohort was 29 (range 18-36). 96 % had urodynamic stress incontinence (USI) and 4% had mixed detrusor overactivity and USI. 16% (n=9) had undergone previous continence surgery.

In the subgroup with BMI< 30 (n=31, of which13 patients had a BMI<25), the average preoperative ICIQ-IU was 17 (range 11-20) and ICIQ-OAB was 8 (range 4-14).27 patients attended follow up. For those who had follow up at 3 months (n =11), the average ICIQ-UI score was 11 (range 5-21) and ICIQ-OAB was 4(range 1-7). 86% reported an improvement in symptoms while 14% of patients reported no change to their symptoms.
Of the patients seen at 6 months for follow up(n=5), the average ICIQ-UI was 9 (range 5-16) and ICIQ-OAB was 4(range 3-5) and 100% of patients reported improvement. For those seen at 12 months follow up (n=11), the average ICIQ-UI was 15 (range 0-18) and ICIQ OAB was 8(range 2-13). 36% reported improvement while 64% of patients reported no change. Four patients were lost to follow-up.

In the subgroup with BMI >30: (n=24), the average preoperative ICIQ-IU was 18 (range 16-24) and ICIQ-OAB was 7(range 3-16).). 21 attended follow up. For those who had follow up at 3 months (n =7), the average ICIQ-UI was 11 (range 4 - 16) and ICIQ -OAB was 7 (range 1- 12). 88% reported an improvement in their symptoms and 12% reported no change. Of the patients seen at 6 months for follow up(n=9), the average ICIQ-UI was 12 (range 4- 20) and ICIQ -OAB was 8 (range1-13). 70% reported improvement in their symptoms and 30% of this cohort reported no change. For those seen at 12 months follow up(n=5), the average ICIQ-UI was 10 (range 0-20) and ICIQ -OAB was 6 (range 0-16). 50% of patients reported an improvement and 50% reported no change. Three patients were lost to follow-up.

9%(n=5) patients from the cohort of 55 required further treatment for stress incontinence and had urethral bulking. 14%(n=8) patients required antimuscarinic medication or Botulinum toxin for overactive bladder symptoms.

INTERPRETATION OF RESULTS

Our results did not suggest a significant impact of BMI on the success rates of laparoscopic colposuspension. It is important to note that the maximum BMI was 36 and it may be possible that success rates are lower with further increases in BMI, and further studies may be needed**.**

CONCLUSIONS

Our findings also suggest that although the success rate at 3 months was over 80% for both groups, this reduced to 50% or less at 1 year post surgery. The causes for this decline may be multifactorial and larger studies are required to determine factors affecting longer term success.

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Long-Term Results of Laparoscopic Burch Colposuspension for Stress Urinary Incontinence in Women

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Stress urinary incontinence: long-term results of laparoscopic Burch colposuspension

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90 - MICROABLATIVE FRACTIONAL CO2 LASER TREATMENT FOR VULVOVAGINAL ATROPHY IN WOMEN AFFECTED BY SYSTEMIC SCLEROSIS: A PILOT STUDY AT 20-WEEK FOLLOW-UP

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INTRODUCTION AND AIM OF THE STUDY

Several previous studies have assessed a high prevalence of vulvovaginal atrophy (VVA) symptoms (i.e. vaginal dryness, vaginal burning and dyspareunia) and sexual impairment in women affected by systemic sclerosis (SSc)[1]. Several anatomical modifications such as the retraction of the introitus, thinning and regression of the labia, prominence of the urethral meatus, similarly to the changes reported in menopausal women affected by the genitourinary symptoms of menopause (GSM), have been reported also in women with SSc.. In women with SSc lubricants have been described as the predominant or exclusive type of treatment adopted for VVA. The 70% of women with SSc and VVA, as reported in a recent Italian survey, expressed interest in exploring novel or experimental treatments for their symptoms[2]. The efficacy of vaginal laser treatments like the microablative fractional CO2 laser (MLT) or the erbium YAG laser have already been assessed in women affected by GSM[3]. However, the effectiveness and safety of microablative fractional CO_2 laser (MLT) have never been previously explored in women with SSc who experience VVA symptoms. Considering this background, the present prospective study was designed to assess the efficacy and safety of CO2 MLT in order to treat VVA symptoms in women with affected by SSc.

MATERIALS AND METHODS

This is a prospective feasibility pilot study with a small sample size to design a future randomized study to evaluate the efficacy and safety of CO_2 MLT in patients with SSc. It included women affected by systemic sclerosis according to the American College of Rheumatology, and who referred to the gynecological outpatient clinic because of symptoms of VVA from March 2020 to December 2022. The Hospital Research Review Committee approved the study protocol. The primary outcome of the study was to assess the satisfaction rate of the treatment at the 20-week follow-up since the first laser treatment through a 5-point Likert scale (very satisfied, satisfied, uncertain, dissatisfied, very dissatisfied). Secondary outcomes were: 1) effects of the laser treatment on VVA symptoms, measured using a 10-cm visual analogue scale (VAS). The intensity of symptoms was defined as mild (≤ 3), moderate (>3 and < 7) or severe (≥ 7); 2) changes of the Vaginal Health Index (VHI) after treatment as compared with baseline. To assess sexual function, we incorporated the Female Sexual Function Index (FSFI). All patients included in the study were treated with the CO_2 MLT (SmartXide2 V2 LR, Monalisa Touch, DEKA, Florence, Italy) using a specifically designed transvaginal probe with the following setting: dot power 30 watts, dwell time 1000 µs, dot spacing 1000 µm, smart stack parameter from 1 to 3, and DEKA pulse mode. After lowering the laser energy to 25 watts, the vaginal introitus was treated. A treatment cycle included 5 laser applications (one every 4 weeks). Time points of the study were therefore at baseline (T0), at week 4 (T1), at week 8 (T2), at week 12 (T3), at week 16 (T4), and after 4 weeks (20-week) since the last laser application (T5). The normal distribution of continuous variable data was evaluated with the Kolmogorov-Smirnov test. Continuous variables were analyzed by use of the Kruskal Wallis test for more than 2 groups (for non-normally distributed data). When a statistical significance was found, the Wilcoxon rank sum test (for non-normally distributed data) was adopted for pair (before and after) comparison. Data were analyzed using the SPSS software version 20.0 (SPSS Science, Chicago, IL). A p value < 0.05 was considered statistically significant.

RESULTS

Sixteen women affected by SSc and VVA symptoms have been enrolled in this prospective pilot study. Two women dropped out from the study for personal reasons, and 14 patients were included and completed the 20-week follow-up. No adverse events related to the MLT procedure were recorded throughout the study period. Considering the baseline characteristics of the study population, the mean age was 57.78 (±10.72) years, 12 women (85.7%) were menopaused (all spontaneously), 11 women (78.6%) were sexually active. Age at SSc diagnosis was 40.64 (±13.37) years. At 20-week follow-up, 10 women (71.4%) were satisfied, 3 (21.4%) patients were uncertain, and 1 (7.1%) patient were dissatisfied with the fractional CO_2 laser procedure, with a significant difference in comparison with baseline (p<0.0001). At baseline, the VHI score was 14.07 (±0.7), and it significantly increased at T5 to 17.57 (±1.22) (p=0.001), showing an objective improvement of the vaginal trophism. All VVA symptoms were severe at baseline, and significantly improved

to 20-week follow-up (Table1). The severity of symptoms became moderate for dryness and dyspareunia and mild for burning.

	Baseline	T1	T2	T3	T4	T5	*p*-value
VHI, mean (± SD)	14.07 (±0.7)	-	-	-	-	17.57 (±1.22)	**0.001**
Dryness, mean (± SD)	8.50 (±1.34)	7.71 (±2.33)	7.28 (±2.36)[a]	6.64 (±2.20)[a]	5.92 (±3.56)[a]	5.64 (±3.20)[abc]	**<0.0001**
Burning, mean (± SD)	7.35 (±2.92)	4.0 (±3.80)[a]	5.07 (±3.22)[a]	4.42 (±3.13)[a]	1.92 (±2.84)[abcd]	2.35 (±2.73)[acd]	**<0.0001**
Dyspareunia, mean (± SD	9.07 (±1.14)	8.35 (±1.27)[a]	7.64 (±2.61)[a]	7.57 (±2.37)[a]	6.71 (±2.97)[ab]	6.92 (±2.61)[ab]	**<0.0001**

Table 1. Vulvovaginal symptoms in women affected by Systemic Sclerosis. [a] Statistically significant difference in comparison with baseline. [b] Statistically significant difference in comparison with T1. [c] Statistically significant difference in comparison with T2. [d] Statistically significant difference in comparison with T3. [e] Statistically significant difference in comparison with T4. *VHI: Vaginal Health Index; SD: Standard Deviation*

At baseline, 11 (78.6%) women were sexually active. All patients recovered sexual function at 20-week follow-up. A significant improvement of the FSFI total score was observed among sexually active women at the 20-week follow up (19.39 ± 7.85) versus baseline (13.09 ± 8.54). Moreover, each single FSFI domain score (except orgasm) was improved after MLT at 20-week follow-up.

INTERPRETATION OF RESULTS

In this pilot study, more than 70% of women affected by SSc and VVA symptoms resulted satisfied with the MLT CO_2 at 20-week follow-up. Vulvovaginal health, evaluated using a 0 to 10 VAS for VVA symptoms and the VHI score, demonstrated improvement one month after the final laser session of MLT. Furthermore, nearly all domains of the FSFI showed significant enhancement in this group of women. CO_2 MLT confirmed to be safe also in this population of women affected by SSc. Indeed, no adverse events were reported in the study population. The current study is subject to several limitations. Firstly, the sample size is relatively small, although it is important to recognize this as a pilot feasibility study assessing the safety and efficacy of fractional CO2 laser therapy for managing VVA symptoms in women with SSc and that SSc itself is a rare medical condition. Another significant limitation is the absence of a control arm. However, the present study represents the first demonstration of the safety and efficacy of microablative fractional CO2 laser therapy for managing VVA symptoms in women with SSc. Impressively, the majority (71.4%) of patients enrolled in this study expressed high levels of satisfaction with the laser procedure. We consider the primary strength of this study to be its establishment of a foundation for future well-designed research endeavors. Should our initial findings be corroborated, fractional CO_2 laser therapy could emerge as a highly pertinent option for managing VVA in patients with SSc. Further studies also evaluating the risk factors, such as the severity of the other clinical manifestations of the SSc, for the success/failure of the procedure in this population of patient may help to better select participants to submit to the study procedure.

CONCLUSIONS

Microablative fractional CO_2 laser therapy was demonstrated to be safe and effective in alleviating vulvovaginal atrophy symptoms among women suffering of systemic sclerosis. The findings of this pilot study warrant validation through future research endeavors focused on assessing long-term efficacy.

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91 - WEIGHT AND ITS IMPACT ON PELVIC FLOOR HEALTH: A CROSS-SECTIONAL STUDY OF WOMEN IN THEIR REPRODUCTIVE YEARS

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INTRODUCTION AND AIM OF THE STUDY

Although there is a known corelation between obesity and pelvic floor dysfunction, the association between the two in women of reproductive age is limited and insufficient. This study aimed to examine the correlation between overweight and obesity and pelvic floor dysfunction (PFD) in premenopausal women who have experienced vaginal delivery.

MATERIALS AND METHODS

A cross-sectional, questionnaire-based Internet survey was conducted. The survey targeted women aged 18-50 years, assessing their pelvic floor status using two validated questionnaires: the USIQ and PFDI-20. Additional clinical, anthropometric, and demographic questions were included. The combined questionnaire was available in both Hebrew and Arabic. We compared the prevalence of PFD symptoms in overweight and obese individuals (BMI > 25) to those with normal BMI (18.5-24.9). Only completed questionnaires were analysed.

RESULTS

From an initial pool of 9,907 randomly selected women who were invited to participate via email, 1,156 met the inclusion criteria. Among these, 502 women fully completed the questionnaire, resulting in a response rate of 43%. The overweight and obese group had a higher average age (37.1 ± 7.5 years) compared to the control group (35.1 ± 7.6 years), p=0.003. A greater proportion of individuals in the overweight and obese group reported having an income "way below average" (29.7%) compared to the control group (29.3%). A significant 62.5% of the study group reported at least one moderate to severe symptom (primarily urinary-related) compared to the control group (45.6%), p<0.001. The PFDI-20 total score was significantly higher in the obese group (21.5 ± 16.3 vs. 17 ± 15.8, p=0.002). Though the USIQ questionnaire showed no significant difference in symptom prevalence between the groups(p=0.345), the impact on quality of life was markedly greater in the overweight and obese group (30.8 ± 27.1 vs. 23.5 ± 24, p=0.022). Multivariable logistic regression analysis for the POPDI-6 and UDI-6 sections of the PFDI-20 Questionnaire indicated adjusted risks of 4.309 and 8.90, respectively, for the overweight and obese group. A sub-analysis of the overweight responders (142 ,61.2%) revealed similar results, with a significant increase in pelvic organ prolapse, urinary symptoms, and poorer quality of life related to these urinary symptoms.

INTERPRETATION OF RESULTS

These findings suggest that both obesity and overweight are associated with pelvic floor dysfunction (PFD). This underscores the importance of addressing weight management in clinical education provided to patients.

CONCLUSIONS

Increased BMI is strongly correlated with PFD among women of reproductive age. The higher the BMI, the greater the risk and severity of symptoms. There is a clear positive correlation between being overweight (BMI 25-29.9) and PFD. Therefore, we can conclude that being overweight is a risk factor for PFD and that healthcare providers should consider this when advising and treating patients.

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92 - THE PREVENTION OF PELVIC FLOOR DYSFUNCTION IN FEMALE-TO-MALE SEXUAL REASSIGNMENT: A FUTURE CHALLENGE FOR TAILORING CARES

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INTRODUCTION AND AIM OF THE STUDY

There is currently little knowledge available about pelvic floor dysfunction and the risk factors associated with sex reassignment surgery for urinary incontinence, pelvic organ prolapse (POP), or pelvic floor disorders (PFD). There is currently a lack of study on female-to-male (FTM) reassignment, with the majority of the scant literature on the subject concentrating on the switch from male to female treatments. There is growing evidence that subjective criteria, rather than so-called objective criteria based on physical attributes, may provide a more relevant foundation for assessing the outcomes of hormone therapy and gender realignment surgery assessed by medical professionals. In this instance, the pelvic floor evaluation is especially important for the start of PFD and for the psycho-physical and sexual aspects of well-being.

According to published statistics on the prevalence of PFD in FTM transsexuals following surgery, up to 16% of cases involved urge, stress, and mixed urine incontinence, and 7.5% of participants showed a recurrence of pelvic organ prolapse. [1] Furthermore, pelvic floor dysfunctions in FTM transgender people are becoming a more prevalent issue; yet, no one explanation has been conclusively determined. There could be several causes for this increasing occurrence. There may be a role for comorbidities, socioeconomic status, and hormonal variables. Investigations on humans and animals have demonstrated the effects of estrogen therapy and androgen deprivation on the architecture of connective and adipose tissue, pelvic floor muscle mass, and pelvic organ support. By doing so, in clinical practice, the healthcare providers need to increase their skills and confidence in non- invasive methods to monitor and assess the risk of PFD after sexual reassignment surgery.

The study's objective was to arrange easy and helpful techniques for evaluating risk following FTM sexual reassignment. It also provided customized approaches for investigating into PFD risk and encourage early detection and preventive measures like recurrence and insurgence care by starting a specific pelvic floor rehabilitation program.

MATERIALS AND METHODS

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A questionnaire was utilized to determine the risk. Specifically, the Pelvic Floor Distress Inventory 20 (FPDI-20) questionnaire. This questionnaire is a standardized and repeatable tool with three subscales: the first, which consists of six questions about genital prolapse symptoms (POPDI-6); the second, which consists of eight questions about colorectal symptoms (CRADI-8); and the third, which consists of six questions about urinary symptoms (UDI-6). This survey has been validated in several languages, including Italian as. [3]

Those questions were submitted to a cohort of 7 FTM subjects that underwent underwent sexual reassignment surgery, i.e., total laparoscopic hysterectomy and bilateral salpingo-ophorectomy.

RESULTS

Table 1 reports the analysis of the three subscales compared with PFD in FTM literature data derived from Italian validation of PFDI-20.

	Mean (SD)	*Mans (SD)*	*Mean difference; [95%CI];* p *value*
POPDI-6	1.2 (2.0)	1.6 (3.2)	0.4 [-2.0 to 2.9]; 0.740
UDI-6	11.3 (15.7)	1.7 (2.6)	-9.6 [14.8 to -4.5]; <0.001
CRADI-6	3.6 (2.3)	1.6 (2.5)	-2.0 [-4.1 to 0.1]; 0.068

Table 1 - Reliability of PFDI- 20 and subscales in FTM, and its comparison with literature data [1].

It is clear that the UDI-6 subscale scores appeared significantly higher (mean values 11.3 vs 1.7; $p < 0.001$) in FTM, the scales specific for prolapse of bowel distress were not different from literature analysis.

Other variables such as age, smoking habits and BMI were studied, without great correlation with the questionnaire score. Some associations are possible, but they will probably emerge in greater studies.

INTERPRETATION OF RESULTS

The cause of those outcomes might be due to androgen therapy. The treatment causes structural and physiological changes in the genitourinary tract, including anatomical changes in the vulvar, urethral, vaginal wall, and bladder tissues. These changes result in genital dryness, friable vaginal epithelium, frequency, and urgency of urination. The therapy also suppresses estrogens and induces epithelial and connectival modifications that are similar to estrogen deprivation. Because of this, hormone therapy may considerably increase the recurrence of urine symptoms in FTM, according to questionnaire responses.[2]

CONCLUSIONS

Given the sensitive nature of PFD and its impact on an individual's physical characteristics, self-perception and overall body image, it is essential to prevent PFD and identify potential risks early on, particularly in FTM. It is essential to prevent this possibility as it represents a significant psychological risk for these people to have to cope with the aftermath of a gynecological reassessment.
It's also worth noting that a previous study revealed transsexuals to be more reticent when talking about urogenital problems, and that asking indirect questions may elicit more truthful answers. As such, even in cases when a validated questionnaire is employed, symptoms may remain unreported.

The early recognition of risk with tools like the PFDI-20 questionnairein FTM might play a crucial role in the improvement of quality of life and pelvic floor dysfunction prevention, reducing the long-term possible development of PFD.

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93 - EFFICACY, SAFETY AND PATIENTS' SATISFACTION OF INTRAURETHRAL BULKING AGENT (BULKAMID) INJECTION FOR FEMALE STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is an extremely common condition impacting women's quality of life. It consists of urine leakage subsequent to any event that causes an increase in intraabdominal pressure, which exceeds the tightness of the urethral sphincter (1). To correct this mechanical defect, the most widely used surgical solution in recent years has been suburethral sling, whose effectiveness, however, is accompanied by the incidence of some side effects, which have encouraged the finding of less invasive alternatives. In addition, the 2008 and 2011 FDA warrants regarding complications of the use of surgical mesh for pelvic organ prolapse and SUI led to a gradual decrease in the positioning of mid-urethral sling for the treatment of SUI and a concomitant increase in the use of bulking agents, due to their lower invasiveness and almost complete absence of adverse events (2). Bulking agents are injectables materials used to decrease urethral calibre and increase its resistance. Thanks to the absence of incisions or surgical dissections, there are strong limitations in procedural complications, recovery times, and the need for anesthesia (3). Bulkamid®, in particular, is made of polyacrylamide hydrogel and it's been approved by FDA in 2020.The aim of the study is to evaluate the efficacy and safety of Bulkamid® use in the treatment of SUI and to investigate patients' overall satisfaction with the intervention.

MATERIALS AND METHODS

This is a monocentric observational study. We analysed women who underwent surgery for intraurethral injection of bulking agent (Bulkamid®) for stress urinary incontinence between 2020 and 2024. All patients complained of stress urinary incontinence, with or without concomitant overactive bladder symptoms. As pre-surgical assessment, they all performed an invasive urodynamic examination and obtained a diagnosis of mild, moderate, or severe urodynamic stress incontinence. Patients who had concomitant detrusor overactivity at urodynamics received medical therapy with antimuscarinics for at least 3 months before the bulking agent injection was performed. Patients' characteristics, duration of surgery, and any intra- and postoperative complications were investigated. Post-surgical pain was assessed by a 1-10 VAS scale. The possible occurrence of clinical recurrence of incontinence and the need for reintervention were then analysed. Patients with at least 6 months of follow-up were investigated for assessment by a 5-point Likert scale of overall satisfaction with the surgery.

RESULTS

A total of 45 women were selected for the study. Mean age was 56,1(±10,6 SD) years old and mean BMI 24,01 (±37,8 SD) Kg/m2. 30/45 (66,7%) of women were on postmenopausal status. All women underwent pre-surgical urodynamic assessment and were all diagnosed with urodynamic SUI (23/45 severe SUI, 17/45 moderate SUI and 5/45 mild SUI). 14/45 patients (31,1%) had concomitant detrusor overactivity and performed antimuscarinic therapy before and after Bulkamid® injection. The average surgical time of the procedure was 10,6 minutes and no complications were reported during the procedure or in the immediate postoperative period. Pain on first postoperative day was found to be very low with a reported average VAS of 1,4 out of 10 and none of the patients required intravenous analgesics administration. All patients resumed normal urinary function within hours of surgery, with none complaining of difficulty with urination or need for bladder catheter placement. the average length of stay was 1,5 days.

No women complained of the onset of urinary dysfunction or de novo onset of urinary urgency symptoms. None of the patients reported short- or long-term side effects or negative impact on quality of life or sexual function.

Regarding efficacy, 37/45 (82,2%) of the treated women reported that they experienced an improvement in symptoms after the procedure. Among patients with a follow-up of more than 3 years (n=10), one half confirmed the persistence of beneficial effect of Bulkamid® on SUI. On the other side, 8/45 (17,7%) patients reported no significant beneficial effect on SUI after Bulkamid® injection and 12/45 (26,7%) complained of reoccurrence of stress incontinence symptoms after initial success of the intervention, with an average of 14 months of well-being before relapse.

There was no statistically significant difference between patients' overall satisfaction according to the presence or absence of detrusor overactivity or the severity of SUI at urodynamics. In the same, no significant difference has been found between patients with severe, moderate or mild SUI in terms of women satisfaction with Bulkamid® or risk of relapses.

INTERPRETATION OF RESULTS

Bulking agent injection appears to be a very minimally invasive and side-effect-free modality for the treatment of SUI. More than 80% of patients reported a beneficial effect of treatment, and among those who relapsed, there was a latency for symptoms recurrence of more than one year. Despite the limited efficacy over time, overall patient satisfaction was good, and women who relapsed would undergo the procedure again. The main limitation of the study is the small sample size and variability in follow-ups.

CONCLUSIONS

Bulkamid® injection represents a safe and effective alternative in the treatment of stress urinary incontinence. Although they do not represent a permanent solution, bulking agents provide a therapeutic option that is repeatable over time, proof of severe risks for the patient, and appreciated by women because of their low invasiveness and the possibility of following a step-by-step approach. Further studies with larger sample sizes are needed in which to explore whether meaningful risk factors for recurrence exist so as to work even better on patient selection and counselling.

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94 - OUTCOMES OF A STANDARDIZED PROTOCOL FOR POST-OPERATIVE PELVIC REHABILITATION FOLLOWING DAVYDOV'S NEOVAGINOPLASTY IN PATIENTS WITH MAYER-ROKITANSKY-KÜSTER-HAUSER SYNDROME

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INTRODUCTION AND AIM OF THE STUDY

Mayer-Rokitansky-Küster-Hauser syndrome (MRKHS) is characterized by congenital absence of the vagina and uterus. Davydov's neovaginoplasty (DN) is a promising surgical technique for creating a functional neovagina. However, post-operative care and rehabilitation are crucial for optimal outcomes. We aimed to report the outcomes of a standardized protocol for post-operative pelvic rehabilitation following DN in patients with MRKHS.

MATERIALS AND METHODS

This retrospective study analyzed 49 patients who underwent DN for MRKH syndrome between 06-2017 and 04-2023. The post-operative rehabilitation protocol, initiated on the third post-operative day, included progressive dilation, pelvic floor exercises, patient education and regular follow-up. Main outcome measures included neovaginal dimensions, epithelialization, sexual function and complications.

RESULTS

At 1-year post-surgery, mean neovaginal length was 76.7±11.8 mm, with a width of 25.1±3.5 mm. Complete wall epithelialization was achieved in 98.0% of patients. 75.5% of patients engaged in sexual intercourse, with 10.2% reporting long-term dyspareunia. Intraoperative and postoperative complication rates were 6.1% and 12.2%, respectively. Intraoperative complications included rectal injury and minor bleeding while post operative complications included urinary retention, rectovaginal fistula, vaginal stenosis and granulation tissue formation. All complications were successfully managed.

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INTERPRETATION OF RESULTS

The combination of DN and the comprehensive rehabilitation protocol demonstrated favorable outcomes in neovaginal dimensions, epithelialization, and sexual function. The structured approach, including dilation, exercises and patient education, appeared effective in achieving and maintaining satisfactory results. The complication rates were within the range reported in previous studies, indicating the safety of the procedure when performed by experienced surgeons.

CONCLUSIONS

DN combined with a standardized rehabilitation protocol offers a promising approach for managing vaginal agenesis in MRKHS. The protocol appears effective in achieving and maintaining satisfactory neovaginal dimensions, epithelialization and sexual function. Prospective studies measures are recommended to strengthen these findings and optimize patient care.

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95 - ATTITUDES TOWARDS STRESS URINARY INCONTINENCE SURGERY AND THE IMPACT OF MID URETHRAL SLING CONTROVERSY

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INTRODUCTION AND AIM OF THE STUDY

Stress Urinary Incontinence (SUI) is a common condition in urogynaecology, management options range from conservative to medical and surgical interventions. Mid-Urethral Sling Surgery (MUS) was the primary surgical treatment for SUI until its suspension in July 2018 in Ireland and the United Kingdom, where the suspension remains in place. This study aims to assess the attitudes of consultant Obstetricians, Gynaecologists, and Urologists in the Republic of Ireland toward SUI surgery after the MUS suspension. The study examines participants' surgical practices prior to 2018, their preferred procedures, willingness to resume MUS, and perceptions of the safety profile of MUS.

MATERIALS AND METHODS

A questionnaire was distributed via email to Consultant Obstetricians, Gynaecologists, and Urologists practicing in the Republic of Ireland. Nineteen consultants participated, and responses were analysed using SPSS version 28. Non-consultant hospital doctors (NCHDs) and consultants practicing outside the Republic of Ireland were excluded. Anonymity was maintained for all participants.

RESULTS

This study included 19 participants, 6 of 19 (31.58%) Consultant Urologists and 13 of 19 (68.42%) Consultant Obstetricians and Gynaecologists. Before the July 2018 suspension, 17 of 19 participants (89.5%) utilized MUS for SUI surgery. Post-suspension, 12 of 19 (63.2%) participants continued performing SUI surgery, with urethral bulking being the most common procedure (N=10, 52.6%). Additionally, 10 of 19 (52.6%) respondents expressed a willingness to resume MUS if the suspension were lifted. MUS was perceived by most participants to have a superior safety profile compared to alternative surgical methods, particularly in preventing post-operative voiding dysfunction (N=16, 84.2%) and reducing treatment failure rates (N=14. 73.6%). Additionally, 68.4% (N=13) found MUS safer in preventing complications related to pelvic organ integrity, while 73.6% (N=14) noted its reduced risk of vascular injury.

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INTERPRETATION OF RESULTS

The study highlights that MUS was the predominant surgical option for SUI prior to its suspension and is still regarded favourably for its safety. A significant proportion of consultants are prepared to return to using MUS should the suspension be revoked. This suggests that MUS remains an important treatment option in the minds of practitioners despite the current restrictions.

CONCLUSIONS

MUS was the primary surgical treatment for SUI prior to its suspension in 2018, and 52.6% of consultants are willing to resume its use. The findings underscore the importance of considering practitioner perspectives when regulatory bodies evaluate the future of MUS in the Republic of Ireland and the United Kingdom, as it may benefit patients by expanding their treatment options.

96 - ACUTE URINARY RETENTION IN PREGNANCY

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INTRODUCTION

Acute urinary retention (AUR) is a rare condition in pregnancy, usually related to uterine incarceration, but it can lead to serious consequences including bladder rupture, miscarriage, uterine rupture and urinary tract infections (UTIs). Many risk factors have been identified. The aim of this study was to investigate the epidemiology and factors associated with acute urinary retention in pregnancy (pAUR).

MATERIALS AND METHODS

Single - center retrospective observational study. We analyzed data of pregnant women who accessed our obstetric Emergency Room, from 2013 to 2023 and were diagnosed with pAUR.

RESULTS

We reported 54 cases of pAUR out of 82,145 deliveries (52 women in total, two of whom experienced recurrence in the following pregnancy) giving an incidence of 0.7 per 1,000 births (95% IC 0.4 – 0.9 per 1000). Median maternal age was 41 years (SD 5.72), 36.7% were multiparous women, 63.3% nulliparous. Associated risk factors were reported in 18 cases (34.6%): retroverted uterus in 13 women (25%), uterine myomas in 3 women (5.7%) and uterine prolapse in 2 women (4%). The AUR occurred mostly in the early second trimester of pregnancy with a median gestational age of 13 weeks (95% IC 11-14). Two women (3.8%) had twin pregnancies, while other 2 developed an IUGR.

Concerning the treatment, 35 (67%) women required a prolonged catetherization and 6 of these required hospitalization. Among hospitalized patients we observed significantly higher gestational age rather than outpatient cases, but no correlation with gynecological pathologies (prolapse, retroverted uterus, myomas).

CONCLUSIONS

We presented one of the largest single-center cohort of pAUR. This complication is more common between 11 and 13 weeks of gestation, but the higher the gestational age, the greater the risk of hospitalization. In our 11-years population the most frequent risk factor for pAUR was retroverted uterus.

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97 - EFFECT OF BODY MASS INDEX ON SURGICAL OUTCOMES IN PATIENTS UNDERGOING LAPAROSCOPIC SACROHYSTEROPEXY AND SACROCOLPOPEXY

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OBJECTIVE

To compare perioperative and long-term outcomes of laparoscopic sacrohysteropexy (LSH) /sacrocolpopexy (LSC) in different w eight groups.

DESIGN

This was a retrospective cohort study from a single tertiary care center. Patients were evaluated preoperatively and postoperatively (starting from 1 month after surgery, and then annually).

Patients

All patients who underwent laparoscopic sacrohysteropexy/sacrocolpopexy, between July 2012 and December 2022

Measurements and Main Results

The study population was divided into three groups, according to Body mass index (BMI) at time of surgery: Group 1- "Healthy weight"- encompassed patients with a BMI less than 25 kg/m², Group 2- "Overweight"- included patients with a BMI ranging from 25 to 30 kg/m², and Group 3- "Obese"- comprised patients with a BMI exceeding 30 kg/m². The primary outcome was the rate of perioperative complications. The secondary outcome was the comparison of long-term results between the groups. Altogether 246 patients were included: 145 in group 1 (mean BMI 21.9±2), 88 patients in group 2 (mean BMI 27.1±1), and 13 patients in group 3 (mean BMI 33.0±3). LSH was more frequent than LSC in all groups. The overall perioperative complications rate (up to 30 days after surgery) was 6.3%. No differences between the groups in operative details and rates of perioperative complications were observed. During follow up period, 37 patients (12.2%) presented with prolapse recurrence (objective and/or subjective), the rates of prolapse recurrence, as well as long-term complications, were similar between the groups. Similarly, the groups did not differ in postoperative functional results except for postoperative constipation (group 1- 14.5%, group 2- 23.8%, group 3- 25%, p=.001).

CONCLUSION

Laparoscopic sacrohysteropexy/sacrocolpopexy is associated with low rates of perioperative and long- term complications. We did not find a difference in rates of complications and/ or long-term outcomes, between different weights groups.

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Keywords: Pelvic surgery; Pelvic organ prolapse; Long term results

98 - Trends in Patient Characteristics, Surgical Techniques, and Associated Complications over Time in Pelvic Organ Prolapse Repair

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OBJECTIVE

In light of clinical and regulatory changes in the field of gynecological surgery in recent years, the mix of surgeries to repair pelvic organ prolapse (POP) has changed. We aimed to assess the temporal evolution in surgical procedures for POP treatment and the corresponding changes in short-term complication rates.

MATERIALS AND METHODS

A population-based retrospective cohort study was undertaken. Women above the age of 18, who underwent POP repair surgery, between 2014 and 2022 were included. Short-term surgical complications were evaluated using the Clavien–Dindo Complication Classification system (CDCC), comparing outcomes between different surgical approaches and patient demographics.

RESULTS

During the study period, 490 women met the inclusion criteria. Of them, 239 (48.7%) underwent POP surgery in 2014, and 251 (51.3%) in 2022. Our analysis shows significant changes in surgical procedures that were performed. There was a significant decrease in the rate of VH (25.1% , vs 15.1% , P<0.01), TAH (42.7% vs 23.1%, P<0.01) and a significant increase in the rate of Sacrospinous ligament fixation (SSLF) (2.1% , vs 27.5%, P<0.01), anterior colporrhaphy (14.6% vs 24.7%, P<0.01) and posterior colporrhaphy (0.0% vs 2.4%, P=0.02) was noted. Moreover, there was a decrease in the use of mesh (4.2%, vs 1.2%, P = 0.04). Additionally, short-term complication rates decreased significantly including; infection rate (10.9% vs 4.4%, P<0.01), antibiotic treatment (10.9% vs 4.0%, P<0.01), the need for blood transfusion (16.7% vs 7.6%, P<0.01) and operation time (115.00±41.31 vs 106.34±45.68, P-0.03) (Table1). Logistic regression analysis revealed a significant association between the type of surgery and the rate of complications, adjusted for the year of surgery and the patient's age. SSLF was identified as an independent "protective factor" against a composite of short-term complications (OR=0.191, CI 0.044-0.826, P=0.027).

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CONCLUSIONS

The comparative analysis of POP surgeries between 2014 and 2022 showed a significant shift in surgical procedures used. The transition towards less invasive procedures and reduction of mesh usage was associated with fewer short-term complications.

Table: Surgical procedures and short term complications of women underwent POP surgery in 2014 compared to women underwent surgery in 2022.

Characteristic	POP surgeries during 2014	POP surgeries during 2022	P value
Surgical procedures			
(%) Total abdominal hysterectomy (TAH)	102 (42.7%)	58 (23.1%)	<0.01
(%) Vaginal hysterectomy (VH)	60 (25.1%)	38 (15.1%)	<0.01
(%) Anterior Mesh	10 (4.2%)	3 (1.2%)	0.04

(%) sacrospinous ligament fixation (SSLF)	5 (2.1%)	69 (27.5%)	<0.01
(%) Anterior + Posterior colporrhaphy	7 (2.9%)	19 (7.6%)	0.02
(%) Anterior colporrhaphy	35 (14.6%)	62 (24.7%)	<0.01
(%) Posterior colporrhaphy	0 (0.0%)	6 (2.4%)	0.02
Operating time (min) (mean ± SD)	115.00±41.31	106.34±45.68	0.03
Duration of anesthesia (min) (mean ± SD)	148.26±46.70	141.97±52.11	0.16
(%) Mortality	0 (0.0%)	0 (0.0%)	NA
Short term complications			
(%) Infection	26 (10.9%)	11 (4.4%)	<0.01
(%) Antibiotic treatment	26 (10.9%)	10 (4.0%)	<0.01
(%) Blood transfusion	40 (16.7%)	19 (7.6%)	<0.01
(%) Readmission within 30 days	17 (7.1%)	14 (5.6%)	0.49
(%) Need of intensive care	5 (2.1%%)	6 (2.4%)	0.82
(%) Composite complications= one of the following - infection/ab treatment/blood transfusion/readmission 30 days/ICU	45 (18.8%)	28 (11.2%)	0.02

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99 - COMBINED USE OF ABLATIVE CO2 FRACTIONAL LASER AND PLATELET RICH PLASMA FOR MANAGING GENITURINARY SYNDROME OF MENOPAUSE

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of menopause (GSM) presents significant challenges in postmenopausal women, impacting quality of life due to symptoms like vaginal dryness, irritation, and urinary discomfort. Innovative treatments such as autologous platelet-rich plasma (PRP) injections and CO2 laser therapy have emerged as promising therapeutic options. We aimed to compare the efficacy and safety of combined fractional CO2 laser therapy and PRP injections versus CO2 laser therapy alone in managing GSM symptoms in postmenopausal women.

MATERIALS AND METHODS

In this pilot study, 40 postmenopausal women with GSM were divided into two groups: one group (n=20) received three sessions of CO2 laser combined with PRP injections, while the other group (n=20) received CO2 laser alone. Treatments were administered at four-week intervals. Outcomes were assessed using validated measures for GSM, including the Vaginal Health Index (VHI), vaginal pH and patient satisfaction scores.

RESULTS

All participants completed the three-month treatment course. Both groups showed significant improvements in both mean VHI score and vaginal pH after treatment. However, the intergroup comparison revealed no significant difference. Additionally, patient satisfaction was also significantly improved after treatment in both groups.

INTERPRETATION OF RESULTS

The use of CO2 laser in patients with GSM seems effective whether or not it is combined with PRP. The lack of a significant difference between the groups may be attributed to the pilot nature of the study, which involved a small sample size, limiting its power to detect subtle differences.

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CONCLUSIONS

This study demonstrates that both CO2 laser combined with PRP and CO2 laser alone are effective in improving vaginal pH and VHI in women with GSM. However, the addition of PRP to CO2 laser therapy did not result in significantly greater improvements. Larger, randomized studies with extended follow-up periods are necessary to more definitively assess the potential benefits of combination therapy and to determine if specific subgroups may benefit more from the combined approach.

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100 - WOMEN´S EXPERIENCES OF LIVING WITH A LEVATOR ANI AVULSION CAUSED BY CHILDBIRTH

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INTRODUCTION AND AIM OF THE STUDY

Levator ani avulsion affects approximately 10-20 % of women who have delivered vaginally (1). The damage is permanent and a cause of pelvic floor- related problems, including prolapse (2). There is a lack of knowledge and practise regarding preventive measures, diagnostics, care and treatment. Women´s perspective of living with this injury needs to be noticed and explored.
The study aimed to explore women´s experiences of living with a birth related levator ani avulsion and highlight their experiences of contact with healthcare.

MATERIALS AND METHODS

A qualitative interview study where the data was analyzed using qualitative content analysis according to Graneheim and Lundman (3). Fifteen women between the ages of 33-55 with diagnosed levator ani avulsion participated. Digital interviews were conducted according to a semi-structured interview guide with open- ended questions.

RESULTS

Three themes emerged during the analysis:" Struggling to find the way through healthcare", "Holding back everyday life" and "Seeing the future as uncertain, but hopeful". These themes reflect the women´s frustration and struggle to get help in healthcare, their view of a limited everyday life that must be adapted to what the body can handle, an uncertainty about the future, but also glimpses of hope for good health and better care.

INTERPRETATION OF RESULTS

The implications for health care in general and physiotherapy practise in particular include raising awareness about this "hidden" muscle injury and addressing the needs of affected women with a holistic approach. It´s important to explore and alleviate thoughts and symptoms related to everyday life and exercise. This helps women manage their pelvic floor problems so that these issues do not become barriers in their lives.

CONCLUSIONS

Levator ani avulsion has an impact on women´s quality of life. It is a hidden birth injury that needs attention. The result shows many areas for improvement in healthcare, e.g., the value of a confirmatory diagnosis and care that considers the women´s entire situation. Treatments and preventative measures must be developed to meet the needs of affected women.

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101 - BLADDER INSTILLATION IN BLADDER PAIN SYNDROME - A RETROSPECTIVE REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Bladder Pain Syndrome (BPS), also known as interstitial cystitis, is a chronic and debilitating condition with a prevalence of approximately 2.5%, affecting women about four times more than men. It is characterized by pelvic pain, pressure, and discomfort associated with an increased urge to urinate. The etiology of this syndrome remains poorly understood, yet it is believed to involve a complex interplay of factors including altered urothelial permeability, inflammation, and neuromuscular dysregulation(Nizard et al., 2018). Recent studies have indicated that bladder instillations, particularly with agents like Intravesical Sodium Hyaluronate (Cystistat®), aim to restore the glycosaminoglycan layer of the bladder epithelium, potentially alleviating symptoms and improving overall bladder function in affected patients. Moreover, the therapeutic efficacy of Cystistat in this context has been assessed in various clinical settings, revealing significant reductions in pain and urinary frequency, thereby enhancing the quality of life for patients suffering from this challenging condition (Nizard et al., 2018). However, while the promising outcomes associated with Cystistat treatment have been documented, further research is necessary to fully elucidate the long-term benefits and potential complications of bladder instillation therapies, especially in the context of managing BPS (Nizard et al., 2018). Our study aims to evaluate the success of Cystistat therapy in women presenting to our institution with BPS and to assess the treatment completion and follow up rates.

MATERIAL AND METHODS:

A retrospective chart review was undertaken from January 2022 to July 2024. Women presenting to our tertiary gynaecology centre, diagnosed with BPS on cystoscopy and/ or urodynamics were included in this review. These women were planned for Cystistat therapy for BPS. Patient undergoing the Cystistat therapy were asked to complete an Interstitial Cystitis Symptom Index (ICSI) and Interstitial Cystitis Problem Index (ICPI) questionnaire, which was completed pre and post therapy. All patients were planned to be followed up for 2 years post treatment, which included a bladder (symptom) diary, complication assessment and Clinical Nurse Specialist review. Data was abstracted from patient charts with the following information was collected; demographic details, medical and surgical history, findings on cystoscopy and urodynamics, number of treatments with Cystistat and follow up questionnaire results. The primary outcome was reduction in ICSI and ICPI scores. Secondary outcomes were completion of treatment and duration of follow up. Data was collected on to a secure database and anonymised. Data analysis was performed on SPSS.

RESULTS

25 patients commenced Cystistat treatment during the period of review. 5 patients were actively undergoing treatment at the time of review, leaving 20 who had completed treatment and who met the inclusion criteria.

Their median age was 56 years (IQR: 48 – 63). The majority (90%) were Irish with a median parity of 2 (IQR: 2 – 3) and 12 (60%) patients being postmenopausal. BMI was recorded in only 12 patients with median of 28 (IQR: 26 – 41). In terms of previous history, 16 (80%) of patients had comorbidities with hypertension and hypercholesterolaemia being the most common. Only 4 (20%) of patients had undergone urogynaecology procedures in the past. 100% of the patients had trialed at least one medication for the management of their bladder symptoms. 12 (60%) of patients were on HRT. Positive diagnostic findings were reported in 12 (60%) of patients who underwent cystoscopy, and 11 (55%) of patients who underwent urodynamic studies.

Of the 20 patients in our cohort, 18 (90%) had completed treatment, with 85% receiving the 12 recommended total treatments. 16 (80%) of patients self-reported improvement of symptoms after the treatment.

Only 5 patients had ICSI/ICPI scores both pre and post treatment. Pre-treatment ICSI values were 8, 11, 8, 8, 13 (Mean (SD)- 9 (2.3)) compared to post treatment scores 2, 2, 4, 7, 10 (Mean (SD)- 5 (3.5)). The mean difference was 4 with a p value of p=0.028. For pre-treatment ICPI values for the 5 available were 11, 11, 5, 10, 16 (Mean (SD)- 11 (3.9)) compared to post treatment score 0, 3, 4, 9, 11 (Mean (SD)- 5 (4.5)). This is a mean difference of 6 with a p value of p=0.028

Table 1: Treatment and outcomes

Variables	n (%)
Number of treatments received	
12 treatments	17 (85%)
< 12 treatments	3 (15%)
Completed treatment	
Yes	18 (90%)
No	2 (10%)
Duration of follow up post treatment	
0 – 12months	5 (25%)
6 – 12 months	5 (25%)
12 – 24 months	1 (5%)
24 or more	6 (30%)
Not documented	3 (15%)
ICSI scores	
Pre-treatment ICSI score (N=11) Mean (SD)	12 (4.1)
Post-treatment ICSI score (N=5) Mean (SD)	5 (3.5)
ICPI scores	
Pre-treatment ICPI score (N=11) Mean (SD)	11 (3.3)
Post-treatment ICPI score (N=5) Mean (SD)	5 (4.5)
Self-reported improvement	
Yes	16 (80%)
No	4 (20%)

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INTERPRETATION OF THE RESULTS

The results give an interesting insight into the cohort of patients who attend our service for the management of BPS. The average age in our cohort supports the average age of 50-59 years reported in the literature (Lim, Leslie, & O'Rourke, 2024).

Bladder pain syndrome is a challenging illness to treat, and Cysitstat as a treatment exhibits promising results. Of the 18 patients who completed the treatment, with 16 of these reporting an improvement in their symptoms. This high level of improvement in symptoms is in line with previous studies of this nature (Digesu, Tailor, Bhide, & Khullar, 2020).

Cystitsat has an excellent compliance rate in our cohort of patients, which further supports its use as an easily accessible and acceptable treatment for patients. Limitations of our study include a lack of completion of pre and post treatment ICSI/ICPI scores, with only 5 completing both questionnaires.

CONCLUSION

Cystistat can be used with minimal side effects and good compliance in patients with BPS. Longer follow-up and larger patient numbers will be required to confirm the long-term efficacy and cost effectiveness of this treatment.

Key Words: Hyaluronic acid, Bladder pain syndrome, Recurrent urinary tract infection, Cysitat.

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102 - BRIDGING THE GAP: CURRENT PRACTICES IN ASSESSING SEXUAL DYSFUNCTION IN WOMEN WITH PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a condition that affects up to 50% of women over the age of 50 and can significantly impact a woman's quality of life, including her sexual function. Female sexual dysfunction (FSD) in women with POP often involves issues such as decreased sexual desire, arousal difficulties, orgasmic dysfunction, and sexual pain, which can lead to decreased satisfaction and overall well-being. Despite the significant impact of these symptoms, FSD is frequently under-assessed in clinical settings, potentially due to discomfort with discussing sexual health, lack of training among healthcare providers, and competing clinical priorities. The aim of this study was to evaluate current practices in assessing sexual function in women undergoing POP treatment at a tertiary-level hospital, focusing on adherence to the Irish National Clinical Practice Guideline for the Diagnosis and Management of POP, which recommends thorough sexual health assessments for all patients presenting with POP. Understanding these gaps can guide improvements in clinical practice to ensure comprehensive care for affected women.

MATERIALS AND METHODS

A retrospective audit was conducted on 50 women who underwent pelvic floor repair surgeries for POP, including vaginal hysterectomy, anterior and posterior wall repair, sacrospinous fixation, and colpocleisis, at a tertiary-level hospital. The audit reviewed patient records to assess the documentation of sexual history-taking during initial consultations and pre-surgical evaluations. Data were collected on specific aspects of sexual health assessment, including sexual desire, arousal, orgasm difficulties, and pain during intercourse, as well as consideration of the partner's perspective. Data analysis included calculating compliance rates with the Irish National Clinical Practice Guideline and identifying gaps in practice.

RESULTS

The audit revealed that a sexual history was documented in only 53% of initial consultations. Specific aspects of sexual dysfunction, such as sexual desire, arousal, and orgasm, were not assessed in any cases, while sexual pain was addressed in just 10% of consultations. The partner's perspective was considered in only 13% of cases. Additional data showed that if sexual history was not taken at the initial consultation, it was rarely revisited, with an average of only 0.7 further consultations addressing sexual function before surgery. The mean age of patients was 61 years at initial presentation and 63 years at the time of surgery, indicating that most women were in their 60s when they sought treatment. Furthermore, the grade of the clinician conducting the initial consultation varied, with consultants seeing 57% of patients, registrars 24%, senior house officers (SHOs) 4%, physiotherapists 8%, and advanced nurse practitioners 6%.

INTERPRETATION OF RESULTS

The findings suggest a significant lack of adherence to clinical guidelines regarding the assessment of FSD in women with POP. The under-assessment of key aspects of sexual function may contribute to suboptimal management and outcomes for these patients. Barriers to comprehensive assessments may include time constraints, lack of training, and discomfort with discussing sexual health. The data indicate a need for improved training and protocols to ensure thorough sexual health evaluations are integrated into routine clinical practice. The variability in documentation practices among different healthcare providers highlights the importance of targeted training and standardised assessment protocols to improve the consistency and quality of care provided to women with POP.

CONCLUSIONS

The audit underscores the need for enhanced protocols and training for healthcare providers to improve the assessment of sexual function in women with POP. Implementing comprehensive sexual health assessments into standard clinical care can improve holistic care and outcomes for patients affected by both POP and FSD. Future research should focus on exploring patient perspectives and evaluating the impact of comprehensive assessments on outcomes.

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103 - ASSESSMENT OF KNOWLEDGE, ATTITUDES AND PREVALENCE OF PELVIC FLOOR DISORDERS AMONG PREGNANT WOMEN IN ASIA

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INTRODUCTION AND AIM OF THE STUDY

Pregnancy is a recognised major risk factor for pelvic floor disorders (PFD) – including urinary incontinence, faecal incontinence and pelvic organ prolapse. Many of these women experience pelvic floor symptoms for the first time during pregnancy itself, with a significant proportion facing persistence of symptoms even after delivery. The persistence and progression of symptoms can have significant impact on a woman's quality of life including their physical, psychological, social and sexual wellbeing. In fact, the lifetime risk of woman undergoing surgery for PFD can be as high as 20% by the age of 80 years old.

To date, several cross sectional studies conducted across different countries[1,2,3] have highlighted a general poor level of knowledge on PFD among pregnant women, which contributes to poor health seeking behavior for PFD – where the average knowledge score across all domains being low at 45% in one of the studies[2].

The primary aim of this study is to assess the current knowledge, attitudes and prevalence of PFD among pregnant women in Asia – hypothesizing that it will still be poor. For designing of future intervention, the secondary aim is to identify potential factors affecting participant's knowledge and awareness, as well as patients' preference for methods of outreach in education and raising awareness.

MATERIALS AND METHODS

This is an ongoing cross-sectional study of pregnant women in Singapore, aged 21 and above, who are beyond 24 weeks of gestation. Participants are recruited during their antenatal follow-up in outpatient clinic at the largest women's and children's hospital in Singapore, where they complete a 73-question self-administered online questionnaire.

The questionnaire includes questions on patient's demographics, knowledge on pelvic organ prolapse, urinary incontinence, faecal incontinence and their associations with pregnancy and childbirth. Knowledge questions on appropriate management for the various PFDs were also included. The questionnaire has been formulated based on validated questionnaires on pelvic floor disorders and similar to the one used in our earlier study[3], with addition of questions on preferred mode of health education. Women less than 21 years old who cannot consent to participate and those who are unable to understand or read English are excluded from this study.

We aim to recruit 500 women in this study.

RESULTS

Preliminary analysis of 135 responses is collected as below:

Table 1: Demographic Profile & Information on Pregnancy

Parameters	**N = 147***
	n= 135
Age (years), Mean ± SD (range)	31.8 ± 4.4 (21 – 46)
Pre-pregnancy weight (kg), Mean ± SD (range)	62.6 ± 15.2 (30 – 109)
Weeks of pregnancy (weeks), Mean ± SD (range)	29.8 ± 5.2 (24 – 40.1)
First pregnancy, n (%)	53 (39.3)
No. of pregnancies before, n (%) (a) 1 (b) 2 (c) 3 (d) 4 (e) 5	82 (60.7) 37 (27.4) 17 (12.6) 11 (8.1) 3 (2.2) 1 (0.7)

(f) 6 (g) Unspecified	1 (0.7) 12 (9.0)
Parity, Mean ± SD (range)	1.6 ± 0.9 (1 – 5)

*Total of 147 women were recruited and consented to participate in the study. However, only 135 women completed the self-reported questionnaire satisfactorily.

History of Pelvic Floor Dysfunction

A significant number of participants have reported symptoms of urine incontinence (40.7%), pelvic organ prolapse (3%) and fecal incontinence (3.7%). Among those who have reported symptoms , majority only started experienced these during pregnancy – 91.7% of participants with urinary incontinence, 100% of participants with pelvic organ prolapse and 80% of participants with fecal incontinence respectively. Despite the prevalence of PFD – only 1 participant has seen a pelvic floor therapist for PFD.

Knowledge about Pelvic Floor Dysfunction

Level of knowledge remains poor, with at least 50% of participants indicating 'Unsure' for 16 out of total 24 knowledge questions – particularly in domains of pelvic organ prolapse and treatment options.

INTERPRETATION OF RESULTS

Compared to previous study, knowledge of PFD amongst local pregnant women remains poor despite its prevalence. This may have also contributed to the poor health seeking behaviour amongst local pregnant women who are experiencing symptoms of PFD.

Several similarities are drawn between earlier study in 2018 and this study.

Firstly, the knowledge on pelvic organ prolapse, previously shown to be lowest at 35.3%, remains to be the poorest in this study. More than 50% of participants indicating 'Unsure' for 75% of the questions on pelvic floor prolapse.

Secondly, the knowledge on treatment options for PFD is also poor in our study, with majority of participants unaware of management options for PFD other than pelvic floor exercises such as medications and surgery options.

CONCLUSIONS

This study highlights the need for further interventions in addressing the current knowledge gap, which is crucial in encouraging preventive or health-seeking measures for PFD amongst the population.

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104 - SACROSPINOUS FIXATION OF THE CERVIX FOR APICAL PROLAPSE RECURRENCE AFTER FAILED SACROCOLPOPEXY: ONE-YEAR FOLLOW-UP DATA

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse is a prevalent condition affecting approximately 30% of postmenopausal women, significantly diminishing their quality of life. The most affected compartment is the bladder, leading to a cystocele, though many women with prolapse also present with concomitant apical prolapse. Sacrocolpopexy, recognized as the gold standard for apical prolapse repair, achieves success rates between 77% and 98%. However, despite these favorable outcomes, a recurrence rate of approximately 10% is observed, and reoperation may be required due to urinary incontinence or prolapse recurrence, with the latter occurring in about 5% of cases. In contrast to the numerous studies that define the success rates of sacrocolpopexy (SCP), only a few have specifically focused on the surgical management of SCP failure, particularly concerning revision laparoscopy. Re-do Sacrocolpopexy for prolapse recurrence after a failed apical repair can be challenging. While it demonstrates high success rates, the limited availability of robust data emphasizes the need for further research to strengthen the evidence base.

Since Richter first described the sacrospinous ligament fixation (SSLF) as a vaginal approach for treating apical prolapse, this technique has established itself as a reliable option with satisfactory success rates. When the primary goals in the surgical reconstruction of apical prolapse are long-term anatomical stability and the preservation of sexual function, abdominal sacrocolpopexy (ASC) may be the preferred option. However, when considering factors such as the risk of mesh erosion, cost, operative duration, risk of hemorrhage, wound infection, gastrointestinal complications, and cosmetic outcomes, sacrospinous ligament fixation (SSLF) might present certain advantages. This study aims to clarify whether sacrospinous fixation of the residual cervix following laparoscopic supracervical hysterectomy with sacrocervicopexy and recurrence presents a viable treatment option. To our knowledge, no studies have specifically examined sacrospinous ligament fixation as a treatment for recurrent prolapse following a failed sacrocolpopexy.

MATERIALS AND METHODS

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This case series describes sacrospinous ligament fixation of the cervix following failed sacrocolpopexy (SCP). Three non-sexually active postmenopausal women were referred to our center between October 2022 and April 2023 with symptoms of vaginal bulging and urinary frequency after undergoing laparoscopic supracervical hysterectomy with sacrocolpopexy for pelvic organ prolapse (POP). Clinical examination revealed recurrent prolapse, with a third-degree prolapse of the cervix and bladder according to the POP-Q classification in Case 1 (Aa +3, Ba +6, C +7) (Figure 1a), and Case 2 (Aa +3, Ba +6, C +7) (Figure 2a), in Case 3 a third-degree prolapse of the cervix (POP-Q scores: Aa -3, Ba -3, C +3) (Figure 3a). Vaginal symptom and quality of life (QOL) scores, as assessed by the ICIQ-VS, were 42/10 (Case 1), 26/8 (Case 2), and 15/10 (Case 3). After discussing various treatment options, sacrospinous ligament fixation of the cervix was selected as the least invasive surgical approach. In Cases 2 and 3, anterior colporrhaphy was first performed to correct the cystocele, followed by a posterior colpotomy below the cervix. Sacrospinous ligament fixation of the cervix was then achieved using two non-absorbable sutures to provide adequate apical support. Follow-up evaluations were scheduled for 3 and 12 months postoperatively to monitor outcomes.

RESULTS

The first follow-up was conducted 3–5 months after surgery. The clinical examination revealed proper apical fixation and stabilization of the anterior vaginal wall in all cases, according to the POP-Q classification: Case 1 (Aa -3, Ba -3, C -8) (Figure 1b), Case 2 (Aa -2, Ba -2, C -8) (Figure 2b), and Case 3 (Aa -3, Ba -3, C -8) (Figure 3b). Vaginal symptom scores and quality of life (QOL) scores significantly improved in all cases, as measured by the ICIQ-VS: 10/3 (Case 1), 2/0 (Case 2), and 7/1 (Case 3). The second follow-up occurred approximately 12 months after surgery. The clinical examination showed maintained apical fixation in all cases and a moderate prolapse of the anterior vaginal wall in Cases 1 and 2, according to the POP-Q classification: Case 1 (Aa -1, Ba -1, C -8) (Figure 1c), Case 2 (Aa -1, Ba -1, C -8) (Figure 2c), and Case 3 (Aa -3, Ba -3, C -8) (Figure 3c). Case 1 developed increasing anal incontinence, which had been relatively unmasked before the surgery. Vaginal symptom scores and quality of life (QOL) scores remained improved in Cases 2

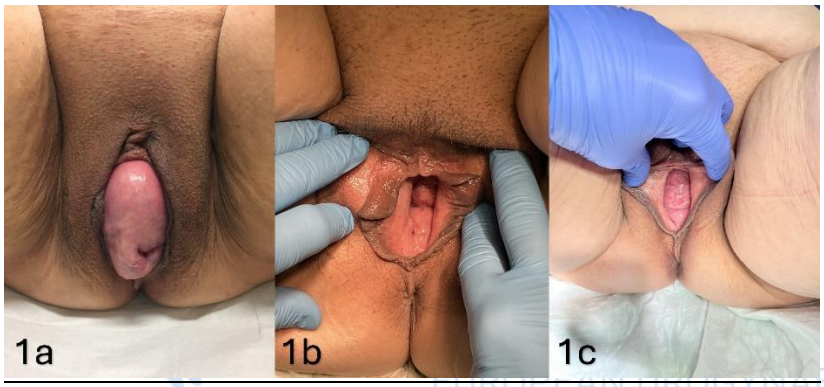
and 3, while Case 1 reported reduced quality of life due to anal incontinence, as measured by the ICIQ-VS: 28/10 (Case 1), 6/0 (Case 2), and 3/1 (Case 3).

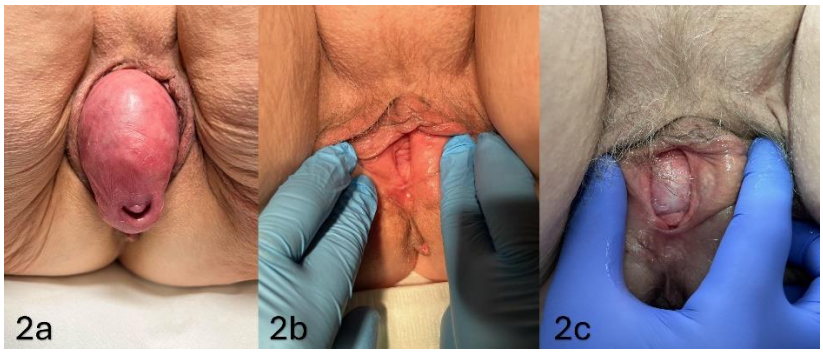
INTERPRETATION OF RESULTS

Sacrospinous ligament fixation provides optimal apical support even one year after surgery, following a failed sacrocolpopexy. However, the success rates for simultaneous cystocele repair remain relatively moderate, consistent with known outcomes in the literature. The altered angle following sacrospinous fixation and the resulting enlargement of the space in the anterior compartment may contribute to this outcome. The presence of the cervical ring and ligamentous structures, along with the refixation of the cervix via a vaginal approach, may enhance success rates compared to purely vaginal fixation, such as in cases of vaginal vault prolapse. Pelvic floor reconstruction should aim to provide effective support with minimal perioperative morbidity. Sacrospinous ligament fixation of the cervix is a feasible and effective method for treating apical prolapse following sacrocolpopexy failure. The safety and time efficiency of vaginal surgery must be carefully considered in the management of pelvic organ prolapse (POP) recurrence following laparoscopic procedures. Although cystocele recurrence is objectively possible, a less invasive surgical approach can still significantly improve quality of life and patient satisfaction.

CONCLUSIONS

Sacrospinous fixation of the cervix after failed sacrocolpopexy offers a time advantage and is a minimally invasive alternative compared to a redo sacrocolpopexy. This approach provides effective apical fixation and improved quality of life at the one-year follow-up.





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105 - THE EFFECT OF MOBILE APPLICATION USED IN URINARY INCONTINENCE ON THE TREATMENT PROCESS: A SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

The objective of this systematic review was to evaluate the effects of mobile applications used in the treatment of urinary incontinence. Urinary incontinence is a prevalent health issue, particularly among women, and can have a detrimental impact on an individual's quality of life. In recent years, the utilisation of technology in the field of health has led to a notable increase in the role played by mobile applications in the management of urinary incontinence.

MATERIALS AND METHODS

This review analyses studies investigating the effectiveness of mobile applications in the treatment of urinary incontinence. A comprehensive literature search was conducted in electronic databases, including PubMed, Scopus, Web of Science, and the Cochrane Library. The inclusion criteria comprised randomised controlled trials, cohort studies and other intervention studies that evaluated the effects of mobile apps in the treatment of urinary incontinence.

RESULTS

The results of the review demonstrate that mobile applications have a beneficial impact on the treatment of urinary incontinence. These applications facilitate the treatment process by providing a range of features, including pelvic floor muscle exercises, bladder training programmes, reminders and daily monitoring. The utilisation of mobile applications has been demonstrated to enhance patient compliance with treatment regimens and mitigate the symptoms of urinary incontinence. In some studies, the use of mobile applications was found to be more effective than traditional methods in achieving treatment outcomes.

INTERPRETATION OF RESULTS

The results of this systematic review indicate that mobile applications can have a positive impact on the treatment of urinary incontinence. By incorporating features such as pelvic floor muscle exercises, bladder training programs, reminders, and daily monitoring, these applications help enhance patient adherence to treatment protocols and alleviate symptoms of urinary incontinence.

CONCLUSIONS

The results of this systematic review indicate that mobile applications may represent an effective tool in the treatment of urinary incontinence. These applications may enhance patients' quality of life by fostering adherence to treatment and alleviating symptoms. However, further high-quality and long-term studies are necessary to gain a more comprehensive understanding of the efficacy of mobile apps.

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106 - HYSTERECTOMY. NECESSITY OR HABIT?

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INTRODUCTION AND AIM OF THE STUDY

Hysterectomy, whether total, supracervical, with or without adnexectomy, is the most frequently performed gynecological operation in Poland and worldwide. There are many indications for this procedure, including oncological reasons and numerous benign conditions, such as pelvic organ prolapse. Like any medical procedure, hysterectomy has consequences, ranging from costs for the healthcare system, social insurance, and patients, to the risk of complications and physical and psychosomatic disorders resulting from the surgical removal of the uterus. The aim of this study was to analyze the number, indications, and techniques of hysterectomies performed in Poland and to discuss the legitimacy of such medical treatment and its broad consequences.

MATERIALS AND METHODS

Data from the Polish National Health Fund for 2022-2023 on the frequency, indications, and techniques of hysterectomy in Polish public hospitals were analyzed. Medical procedure codes were utilized based on the ICD-9 classification (68.71, 68.51, 68.59, 68.391, 68.311, 68.312, 68.61, 68.42, 68.41). Additionally, diagnosis codes according to the ICD-10 classification were employed to identify underlying conditions. The specific types of hysterectomies performed, including total, supracervical, and those with or without adnexectomy, were determined. To assess the financial implications of hysterectomy, treatment costs were calculated based on average rates applicable to Polish public hospitals.

RESULTS

In 2022-2023, a total of 84,568 hysterectomies were performed in Poland. Non-oncological indications accounted for 63,801 surgeries.

- Uterine fibroids were the most common reason, with 37,867 procedures (approximately 60% of all non-oncological cases).
- Pelvic floor static disorders and pelvic organ prolapse were indicated in 7,631 cases, including 27 surgeries for urinary incontinence (12% of all non-oncological cases).
- Ovarian cysts were the cause of 4,970 hysterectomies (8%).
- Obstetric causes led to 347 procedures (0.5%).
- Other benign conditions necessitated 9,806 surgeries (11.5%).
- Oncological prevention due to concomitant breast pathologies or oncological family predispositions was an indication in 289 cases (0.5%).

Regarding surgical technique:

- Abdominal surgery via laparotomy was the most common, with 55,126 procedures coded as 68.41, 68.42, 68.61, 68.311, and 68.391.
- Laparoscopy was performed in 17,018 cases (procedure codes 68.71, 68.51, and 68.312).
- Vaginal route was the least used, with 6,716 procedures coded as 68.59.

The estimated annual medical cost of non-oncological hysterectomy in Poland was 45 000 000 Euros, with at least 5 500 000 Euros representing the cost for hysterectomies due to pelvic organ prolapse.

INTERPRETATION OF RESULTS

Hysterectomy, a surgical procedure involving the removal of the uterus, can have significant health implications for women.

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- **Pelvic organ prolapse (POP):** Damage to the ligament system supporting the uterine cervix can increase the risk of future prolapse by up to 50%. Moreover, hysterectomy is not the causal treatment for pelvic organ prolapse (POP).
- **Psychological impact:** The loss of the reproductive organ can lead to a sense of bodily disintegrity, increasing the risk of depression and anxiety disorders by almost twofold.
- **Menopause acceleration:** Hysterectomy, even without oophorectomy, can accelerate menopause by 3-4 years, resulting in associated negative consequences.
- **PTSD-like symptoms:** Fear of bodily destruction can lead to emotional symptoms resembling post-traumatic stress disorder (PTSD) in many women.
- **Sexual dysfunction:** Hysterectomy can negatively impact sexual function, an often overlooked aspect of patient assessment.

Financial burdens:

- **Healthcare system:** The procedure itself imposes costs on the healthcare system. For pelvic organ prolapse (POP), the costs associated with hysterectomy and potential complications may be unnecessary.
- **Social insurance system:** Complications, convalescence, and work absence result in costs for the insurance system.
- **Patients:** Patients directly bear costs associated with the procedure and its consequences.

CONCLUSIONS

Considering the non-oncological indications for hysterectomy, it is highly probable that over 5,000 women annually undergo a significant surgical procedure for pelvic organ prolapse (POP) that could potentially have been avoided. Additionally, uterine fibroids can often be treated with uterus-preserving methods.

Estimates suggest that 25,000 to 30,000 hysterectomies in Poland could be avoided annually. This has a substantial and irreversible impact on both individual health and societal well-being and places a significant financial strain on the healthcare system.

Therefore, implementing strategies to reduce the need for hysterectomy could significantly improve patient satisfaction and the overall healthcare system.

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107 - ATTITUDE REGARDING CONSERVATIVE MANAGEMENT OF PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE WITH VAGINAL PESSARIES – A NATIONAL SURVEY AMONG ISRAELI GYNECOLOGISTS

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organs prolapse (POP) and stress urinary incontinence (SUI) are prevalent medical conditions that affect women and may have a detrimental impact on women's quality of life. Vaginal pessary offers a non-invasive approach for managing such conditions; however, basic knowledge and training are essential for consultation, initial fitting, and follow-up. The current study aims to investigate the views of Israeli gynecologists regarding the use of vaginal pessaries for management of POP and SUI.

MATERIALS AND METHODS

An electronic survey containing questions assessing knowledge, training, and attitudes regarding the use of vaginal pessaries for POP and SUI was distributed among Israeli gynecologists. Data was collected and recorded anonymously. Descriptive statistics were used to report overall responses. Sub-analytic stratifications to working years' experience (i.e. less or more than 10 years) and to general practice (Obstetricians, Gynecologists, and combined Gynecologist-Obstetricians) were made.

RESULTS

A total of 700 emails were sent, with a response rate of 53%. Overall, only 19.3% were familiar with all various pessary types, and 66.5% stated they would not suggest pessaries to treat POP or SUI, mostly (57.0%) due to lack of knowledge or experience. Most respondents (82.6%) lack formal training, and 63.3% would like to receive such. Most respondents (76.4%) will consult a urogynecologist prior and after fitting a pessary, however, 60.4% responded that any gynecologist should follow-up such cases. When stratified by years of experience, physicians with less than 10 years of experience were more likely to offer pessary treatment (31.6% vs. 19.1%, p-value < 0.01), yet those who didn't offer pessary, felt more uncertain in fitting a pessary and were more likely to report lack of experience (24.8% vs. 13.6%, p-value <0.01 and 18.0% vs. 6.2%, p-value < 0.01, respectively), Table 1. Similarly, Obstetricians felt more discomfort than either general Gynecologist or Gynecologist- Obstetricians in choosing pessary (24.6% vs 14.4% and 19.3% respectively, p-value < 0.05), were less likely to receive formal education about pessary usage and were more likely to seek a urogynecologist consultation before or after pessary fitting compared to either general Gynecologist or Gynecologist-Obstetricians (7% vs. 21.1% and 12.6% respectively, p-value = 0.04 and 54.4% vs. 33.7% and 40.0% respectively, p-value =0.05)

INTERPRETATION OF RESULTS

Our nationally distributed questionnaire represents a group of gynecologists who, while somewhat familiar with vaginal pessaries through their daily practice, lack a comprehensive understanding of the subject. Moreover, these gynecologists are eager to receive formal education on the topic.

CONCLUSIONS

Our survey indicates a gap of knowledge and training among Israeli gynecologists towards conservative treatment of POP and SUI with vaginal pessaries. We found a real desire among physicians to acquire such skills. A formal training programs should be established in order to narrow this gap, hence potentially improving women's health.

Table 1: Distribution of Responses Stratified by Years of Experience

		Less than 10 Years of Experience	10 or More Years of Experience	P value
Do you know all the different types of pessaries?		25 (18.8%)	24 (14.8%)	0.34
Do you offer pessary treatment?		42 (31.6%)	31 (19.1%)	*0.03*
For those not offering, what is the reason?	Lack of experience	24 (18.0%)	10 (6.2%)	<0.01
	Lack of time	13 (9.8%)	11 (6.8%)	0.35
	Discomfort in choosing	33 (24.8%)	22 (13.6%)	<0.01
	Unsure about the proper size	29 (21.8%)	20 (12.3%)	0.03
	I believe it shouldn't be done on an ambulatory basis	6 (4.5%)	4 (2.5%)	0.33
Did you receive any official teaching about handling women with POP? (yes)		21 (15.8%)	38 (23.5%)	0.18
Are you interested in getting formal training in pessary fitting? (yes)		79 (59.4%)	66 (40.7%)	<0.01
Do you routinely consult a urogynecologist prior to fitting a pessary?	Always	73 (54.9%)	47 (29.0%)	<0.01
	Not regularly	12 (9.0%)	47 (29.0%)	
	On special occasions	48 (36.1%)	68 (42.0%)	
If a woman who holds a pessary is interested in surgery, what would you do?	Discuss it with her myself.	14 (10.5%)	36 (22.2%)	<0.05
	Refer her to a urogynecologist.	88 (66.2%)	77 (47.5%)	
	Refer her for further evaluation by another consultant	4 (3.0%)	11 (6.8%)	
	Other	27 (20.3%)	38 (23.5%)	
Perspective questions				
Pessary should be offered as first-line management.		3 (2-4)	3 (1-3)	0.02
Pessary is most effective in a minor prolapse.		3 (2-4)	2.5 (1.25-3)	0.01
Pessary can be a long-lasting solution.		4 (3-5)	4 (3-5)	0.26
Pessary is comparable to a surgical solution in cases of prolapse.		3 (2-4)	3 (1-4)	0.02
Pessary is comparable to a surgical solution in cases of SUI.		2 (1-3)	2 (1-3)	0.37

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108 - CHARACTERISTICS OF PATIENTS WITH ENTEROCELE. RETROSPECTIVE ANALYSIS.

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a condition affecting a significant percentage of women globally. It has been reported that in the general population, 40% of women aged between 45 and 85 years have objective POP on examination, whereas 12% of these women are symptomatic [1]. The lifetime risk of surgery for POP in the general female population is 11.1%, and surgery for POP is known to have a high reoperation rate [2]. This condition, characterized by the descent of pelvic organs, can severely impact the quality of life, often necessitating surgical intervention. Previous prolapse surgeries can lead to anatomical defects in other compartments, particularly the apical and posterior ones, which are associated with the development of enterocoele. The objective of this study was to evaluate the demographic data, prolapse symptoms, and medical history of patients with enterocele.

MATERIALS AND METHODS

This study is a retrospective analysis of 70 patients with enterocele evaluated and operated on at a urogynecological center. All patients were assessed using the Pelvic Organ Prolapse Quantification (POPQ) system and completed the Pelvic Floor Distress Inventory-20 (POPDI-20), which includes subscales such as the Urinary Distress Inventory (UDI-6), the Colorectal-Anal Distress Inventory (CRADI-8), and the Pelvic Organ Prolapse Distress Inventory (POPDI-6). Ethical approval for the study was obtained from the bioethics committee.

RESULTS

The mean age of the patients was 68.7 ± 6.9 years, with a mean body mass index (BMI) of 32.1 ± 24.1. The average parity was 2.1 ± 1.6. POPQ measurements indicated the following mean scores: Aa -0.2 ± 2.1, Ab 1.1 ± 2.8, C 2.8 ± 2.5, Ap 2.1 ± 1.6, Bp 4.9 ± 2.2, total vaginal length (tvl) 6.9 ± 0.9, genital hiatus (gh) 5.5 ± 0.9, and perineal body (pb) 2.7 ± 0.6. The mean scores for the POPDI-20 questionnaire were as follows: POPDI-6, 13.7 ± 5; CRADI-8, 12.2 ± 8.6; and UDI-6, 12.4 ± 6. The mean number of overactive bladder (OAB) episodes was 1.1 ± 1.7, and the mean number of urgency urinary incontinence episodes was 0.5 ± 1.0. In total, 65 patients (93%) had previously undergone some form of prolapse surgery. Specifically, 5 patients underwent Debuisson lateral suspension, 7 had pectopexy, 40 had anterior colporrhaphy with trimming (classical anterior repair), and 13 underwent vaginal hysterectomy with anterior colporrhaphy.

INTERPRETATION OF RESULTS

Symptoms in the studied group were predominantly within the POPDI domain, surpassing those within the CRADI and UDI domains. Furthermore, the vast majority of patients in the study had previously undergone other surgeries, which potentially opened the posterior compartment, contributing to the development of enterocoele.

CONCLUSIONS

The primary impact of enterocele seems to be on prolapse-related distress rather than colorectal and urinary symptoms. Enterocoele appears primarily an iatrogenic defect caused either by the shortening of the anterior vaginal wall or by the opening of the posterior compartment through axis changes during laparoscopy. This highlights the importance of precise surgical techniques to prevent such complications.

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109 - THE INFLUENCE OF HYSTEROPEXY AND ANTERIOR VAGINAL TISSUE REPAIR ON SEXUAL FUNCTION: A SINGLE CENTER PROSPECTIVE STUDY

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INTRODUCTION AND AIM OF THE STUDY

In 2017, Serati et al. proposed a new technique for hysteropexy and anterior vaginal native tissue repair (NTR) in women with cystoceles and apical prolapses. The authors demonstrated that their procedure had minimal intra and postoperative complications and promising overall cure rate (1).

in subsequent studies it was also demonstrated that this uterine-sparing technique had reduced blood loss and shorter operating time than traditional NTR procedures for pelvic organs prolapse (POP) treatment, while allowing the preservation of fertility and of a higher sense of identity (2). Despite the benefits related to uterine conservation, hysteropexy procedures are still poorly studied and consequently considered by pelvic surgeons.

The aim of this study was to assess how hysteropexy and anterior vaginal native tissue repair procedure influences sexual function.

The procedure starts with an anterior longitudinal colpotomy; then, the vaginal epithelium is dissected from the underlying pubocervical connective tissue and bladder. After the exposure of the entire isthmocervical portion of the anterior uterine wall, this portion is grasped bilaterally with two stitches. After the midline plication of the pubocervical connective tissue, these two suture are attached to the repaired pubocervical fascia. This way the isthmus of the uterus is suspended to the endopelvic connective tissue and the transverse defect is repaired.

the Female Sexual Function Index (FSFI) is a questionnaire that provide a brief, self-report measure of female sexual function. This test is based on a 6-domain structure, which includes desire, subjective arousal, lubrication, orgasm, satisfaction, and pain. FSFI is a test internationally validated in the assessment of key dimensions of female sexual function.

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MATERIALS AND METHODS

This is a single center prospective study. We included all consecutive women with an anterior vaginal prolapse of stage II or higher and a concomitant uterine prolapse of stage II who underwent hysteropexy and anterior vaginal NTR surgery from May 2023 to January 2024.

Their sexual function was evaluated with Female Sexual Function Index (FSFI) before and 6 months after surgery

Exclusion criteria were: uterine prolapse > II stage and anamnesis of pelvic radiation and/or radical surgery.

RESULTS

Table 1

N=15	
Age, years	67 (39-78)
Body mass index (BMI), kg/m^2	23,5 (18,6-33,0)
Previous vaginal deliveries	1,6 (0-3)
Operative delivery (vacuum/forceps)	2 (13 %)
Previous pelvic surgery	1 (7 %)

Table 2

FSFI Domain	Baseline	After Surgery	P Value
Desire	2,6 (1-4,5)	3,4 (1-5)	0,005
Arousal	2,43 (0-4,25)	2,95 (0-4,5)	0,013
Lubrification	2,45 (0-5)	2,83 (0-5)	0,14
Orgasm	2,4 (0-5)	2,7 (0-5)	0,49
Satisfaction	2,8 (0-5)	3,5 (0-5)	0,01
Pain	2,2 (0-5)	1,4 (0-5)	0,02

Table 1 shows the baseline characteristics of the study population. Table 2 shows the FSFI scores (expressed as mean and interquartile range) before and 6 months after surgery

INTERPRETATION OF RESULTS

15 patients were included in the study. After six months a statistically significant improvement was found in sexual desire, arousal, satisfaction and pain.

CONCLUSIONS

The data collected for the current study demonstrate that hysteropexy and anterior vaginal native tissue repair is not only a safe and effective surgical procedure. In fact, we found that this technique lead also to a significant improvement in patients' sexual function and, consequently, in patients' quality of life. Nevertheless, this technique needs to be further studies in order to offer it to an increasing cohort of patients

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110 - THE USE OF ALVA® THE HIGH-PERFORMANCE PELVIC FLOOR TRAINER DEVICE IN 9 PATIENTS IN GREECE: A CENTER EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

One-third of women will experience urinary incontinence (UI) during life, at any time but most frequently after childbirth, especially stress urinary incontinence (SUI). UI can impair their quality-of-life (QoL). The Pelvic Floor Muscle Training (PFMT) is considered the first-line treatment for SUI in general population. However, there are patients who are not willing to perform PFMT by themselves. There are several medical devices on the market, among them there is the high-performance pelvic floor training-ALVA®. The purpose of the study is to present the preliminary results of the use of the high-performance pelvic floor trainer device ALVA for home treatment of SUI in a short pilot trial of 9 women postpartum.

MATERIALS AND METHODS

A pilot prospective cohort study was conducted in a tertiary academic center from during 2023. All the patients were adults, spoke the Greek language, and suffered from moderate SUI. Preoperatively, all women underwent a clinical gynaecological examination, stress test, and assessment of urinary symptoms with ICIQ-SF. All participants consent to proceed with conservative treatment and PFMT with ALVA® device. The patients were evaluated at 4 weeks, 3 months, and 12 months with clinical examination, stress test, and ICIQ-SF. Data analysis was performed using descriptive statistics.

RESULTS

Nine female patients with moderate SUI were consequently selected, evaluated, and underwent with PFMT treatment using ALVA® device. They had two initial sessions at an outpatient clinic to understand how to use the device under supervision by a gynecologist. Table 1 shows demographics results. All patients completed the one-year treatment using it once a day and would recommend the treatment to a friend. At 3 months follow-up, the stress test was negative in 77.7% (7/9) and was generally well-tolerated. At 12 months follow-up, the stress test was negative in all patients and their the quality of life (QOL) index improved significantly

Table1. Patient characteristics

Patients	N=9
Age (years), mean±SD	34±3,2
BMI (Kg/m2), mean±SD	29.1±2.6
Parity, mean±SD	2.4±0.3
Vaginal Deliveries, mean±SD	1.8±0.6
Heaviest children weight (gr), mean±SD	3521±442

Mean ± SD (standard deviation), BMI Body mass index

Table2 ALVA® results.

	Pre-treatment	3 months	12 months
ICIQ-SF, mean±SD	10.1±0.7	8.4±1.8	3.3±1.2

Mean ± SD (standard deviation), ICIQ-SF: Incontinence Questionnaire-Urinary Incontinence Short Form

INTERPRETATION OF RESULTS

ALVA® seems to be a useful tool for pelvic floor home therapy, with significant control of the symptomatology and improvement in the quality of life. The whole procedure seems to be well accepted and tolerated by the patient. It facilitated t the patient to undergo her treatment session in parallel with other daily activities.

CONCLUSIONS

Pelvic floor muscle training with ALVA® appear to be useful to support the management of female SUI for women with no motivation to perform it by themselves.

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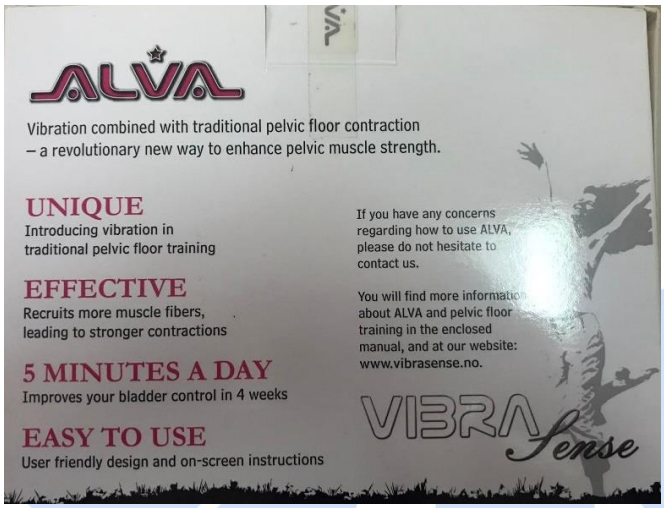

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111 - SACROSPINOUS HYSTEROPEXY - ONE-YEAR RESULTS OF OUR PILOT COHORT

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse is a common diagnosis with prevalence around 40 % of female population. Vaginal delivery, especially with levator ani trauma, increasing age and obesity are the basic risk factors. Native tissue repair is a possible surgical treatment. It is established that uterus plays a passive role in pelvic organ prolapse. Sparing of the uterus keeps the original fixation structures and compartments intact and provides a solid tissue to anchor the stitches. In sacrospinous hysteropexy, nonabsorbable sutures are passed through the namesaked ligament on one or both sides to elevate the uterus. Several studies and their metaanalyses show comparable anatomical and functional outcomes with shorter operation time, decreased blood loss, faster recovery and lower complication rates in comparison with hysterectomy and apical fixation. The aim of the study is to evaluate anatomical and subjective results after sacrospinous hysteropexy 1 and at least 12 months postoperatively. The main goal is to assess the apical compartment but other compartments were evaluated as well. Our results were compared with others found in the literature.

MATERIALS AND METHODS

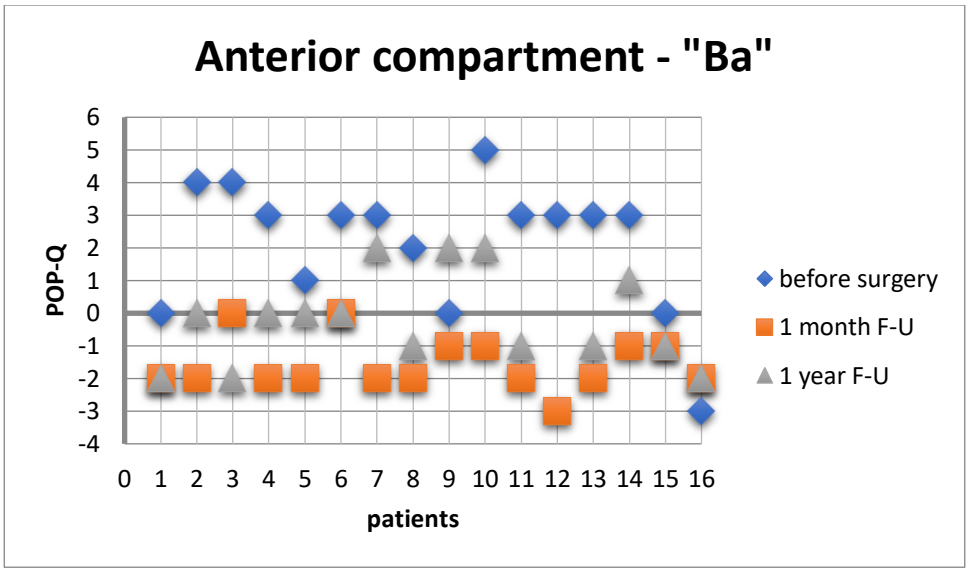
This is a prospective observational study carried out at a single department. The study group consists of 16 patients with symptomatic pelvic organ prolapse POP-Q stage II or higher. They all underwent sacrospinous hysteropexy with or without concomitant procedures in other compartments or incontinence procedure. These were the first 16 cases carried out in our department from May 2021 to January 2023. The mean age was 67 years with mean BMI 25,7 and mean parity at 2,1. Levator ani avulsion was diagnosed in 9 cases. POP-Q staging was used to evaluate severity of prolapse. Majority of patients had stage III prolapse. All patients were followed up 1 month and at least 12 months after surgery. POP-Q was evaluated, along with patient satisfaction and felling of bulge. Cut-off value for anatomical failure was set as POP-Q stage II or higher. Primary outcome was to evaluate the results in apical compartment which is directly repaired with hysteropexy. We also evaluated other compartments and reintervention rate as a secondary outcome.

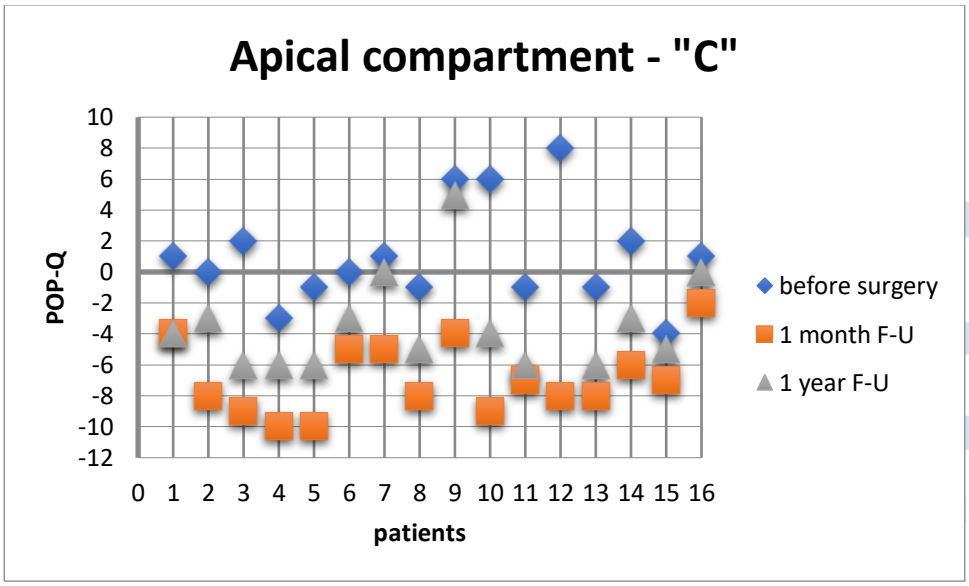
RESULTS

All 16 patients were assessed one month after surgery. Short term results in apical compartment were excellent with no failure. All patients reported good satisfaction with surgery with no bulging symptoms. Results in anterior compartment showed stage II prolapse in 6 patients. 15 patients were evaluated at least 1 year after surgery, 1 patient was lost to follow up. There are 3 patients with anatomical failure in apical compartment. Two of them were symptomatic with one reoperation and one treated with pessary. The reintervention rate is 12,5%. Anatomical success rate in apical compartment one year after surgery is 81,3% with subjective success rate at 87,5%. There is 75% failure rate in anterior compartment with stage II prolapse or higher. But 92 % of them are still improved in comparison before surgery and only 33% are symptomatic. Results in posterior compartment are consistent with no deterioration in time.

INTERPRETATION OF RESULTS

Sacrospinous hysteropexy is a possible treatment for apical compartment prolapse. There is high anatomical success rate for apical compartment at 81,3% and subjective success rate at 87,5% in our cohort. There are studies showing various anatomical results. For example, Plair reports 92% anatomical success rate and Detolenaere 98% respectively, whereas Dietz shows only 73%. Our results fit within the group. Both Detolenaere and Dietz report very high recurrence rate in the anterior compartment, 47 and 50%. We report 75% anatomical failure after 1 year, but only 4 patients have symptoms. The possible explanation is that uterus is pulled dorsaly after sacrospinous fixation. The vaginal axis is changed, the anterior compartment is vulnerable for abdominal pressure. A strength of our study is the prospective design. The limitation is the small cohort and lack of control group to compare hysteropexy with another procedure.





CONCLUSIONS

Sacrospinous hysteropexy is a safe and efficient procedure to treat POP. It provides similar anatomical and functional results with shorter operation time and decreased blood loss compared with vaginal hysterectomy. Sacrospinous hysteropexy is a possible first line treatment option for patients with apical compartment prolapse.

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112 - NEONATAL HEAD CIRCUMFERENCE AS A RISK FACTOR FOR POSTPARTUM URINARY RETENTION

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INTRODUCTION AND AIM OF THE STUDY

Neonatal head circumference (HC) may increase the risk of prolonged second stage of labor, abnormal fetal position (1), and is an established risk factor for perineal tears and pelvic floor dysfunction (2). In the evaluation of pelvic floor dysfunction after vaginal delivery, many obstetric and antenatal factors may contribute, and it is crucial to identify women who are at risk of developing symptoms during their lifetime using appropriate tools such as the pelvic floor dysfunction card (PPD). Postpartum voiding dysfunction (usually defined as PPUR) is an uncommon condition after vaginal delivery, occurring in 0.7-4% of deliveries, and may develop due to both hormonal and mechanical causes (3). The aim of our study was to correlate neonatal head circumference with PPUR.

MATERIALS AND METHODS

Between January 2023 and December 2023, a total of 513 women delivered vaginally in our primary-level obstetric unit, and a PPD card was completed for all of them (100%). We retrospectively analyzed the data regarding women who underwent PPUR following vaginal delivery.

RESULTS

In 2023, PPUR occurred in 10 out of 513 women (1.9%). Of these, 7 had a newborn with a head circumference (HC) greater than 350 mm (70%, p-value < 0.005). Six women were Caucasian, while four were non-Caucasian, and two women had a body mass index of 28 or higher. In three cases, there was a prolonged second stage of labor (> 120 minutes), and in three instances, an operative vaginal delivery with vacuum extraction was necessary; only one of these women (10%) received epidural anesthesia. None of these data reached statistical significance.

INTERPRETATION OF RESULTS

According to existing literature, PPUR is an uncommon condition following vaginal delivery. In our experience, neonatal head circumference appears to play a role in its development, possibly related to the mechanical descent of the fetal head during the second stage of labor.

CONCLUSIONS

In our small data series, HC represents a risk factor in the development of postpartum urinary retention and voiding dysfunction. Larger data sets are necessary to confirm these results

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113 - A RETROSPECTIVE CASE STUDY ON PELVIC ORGAN PROLAPSE: THE ROLE OF PREOPERATIVE MUSCLE STRENGTH AND PHYSIOTHERAPY IN MULTIDISCIPLINARY CARE

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INTRODUCTION AND AIM OF THE STUDY

Managing pelvic floor dysfunction, particularly in cases of prolapse and incontinence, requires a coordinated interdisciplinary approach and strict adherence to standardized protocols. Women with no preoperative pelvic floor muscle (PFM) strength experience a significantly higher recurrence rate of anterior vaginal wall prolapse compared to those with weak or strong PFM. This paper details the physiotherapy evaluation, treatment, and follow-up of a patient with pelvic organ prolapse (POP) and incontinence, focusing on a case set for hysterectomy (HYE). The case study underscores the potential of preoperative physiotherapy as a preventive strategy, particularly for patients with nonfunctioning PFM.

MATERIALS AND METHODS

This retrospective, non-interventional case study describes standard procedures performed as part of routine clinical care. All procedures were conducted with the patient's written informed consent, following the Principles for Good Practice. A 49-year-old woman with MRI-diagnosed right-sided levator atrophy following childbirth avulsion, stress urinary incontinence (SUI grade I), adenomyosis, and uterine prolapse (POPQ2) worsened with exertion while walking and in stress maneuvers such as coughing over the past year. She requires more time and strain to empty her bladder and experiences pressure in the anus. The first symptoms of pelvic floor dysfunction, manifesting as SUI, appeared after her second natural delivery with an episiotomy; however, she considered these issues to be a normal part of postpartum recovery. Consequently, she stopped engaging in activities like running or jumping. She maintains stool consistency at Bristol Stool Chart 4 and leads a sedentary lifestyle. Symptoms were assessed using the ICIQ-SF and POP-SS questionnaires. She had never undergone a specialized pelvic floor physiotherapeutic examination but had unsuccessfully tried electromagnetic chair therapy, hypopressive methods, and core training. The decision to implement a targeted physiotherapeutic approach was motivated by the need to address her specific symptoms after previous interventions proved ineffective. This approach was integrated with surgical planning to optimize her overall treatment, aiming to enhance outcomes by combining physiotherapy with the surgical procedure. A certified physiotherapist with specialized qualifications performed the examination and subsequent therapy. PFM function was evaluated with 2D ultrasound (convex probe 4–8 MHz) assessing PFM lift and relaxation using the transabdominal approach followed by vaginal examination using the PERFECT scheme and the Oxford scale. Both supine and standing positions were examined; however, the results in the standing position were prioritized for a more accurate reflection of her daily life challenges. The therapeutic plan was subsequently developed and continuously revised based on these findings.

RESULTS

Initial examination revealed asymmetry and insufficient levator ani (LA) strength (right: grade 0 anterior attachment of the puborectalis muscle, grade 1 posterior attachment of the pubococcygeus muscle; left LA: grade 2). Endurance and fast contractions were also inadequate (E5/R1/F0) and she could not activate the muscles during stress maneuvers. Initial 2D ultrasound showed insufficient lift (0.3 cm; norm 0.5 cm) and excessive relaxation (1.85 cm; norm 0.5 cm) with a slower onset speed of PFM contraction (0.35 s; norm 0.2 s). She attended four sessions where she was trained to activate PFM, integrating them into daily activities and stress maneuvers such as coughing and sneezing. She performed daily mobility, stretching, and stabilization exercises with PFM activation, incorporating these into global movement patterns during ADLs. She used home electrical stimulation with biofeedback devices for 45 minutes up to three times a day. The patient began exercising in the supine position to keep the device in place and gradually moved to higher positions until standing without the device. The aim was to complete at least 120 PFM exercise repetitions a day to reinforce the new movement through motor learning. She was advised on pessaries and trained in proper ergonomics for heavy lifting in ADLs. At the 2-month follow-up visit, her left LA remained at grade 2 but showed improvements in endurance and fast contractions (E7/R5/F5), while right-sided muscle insufficiency remained unchanged. The 2D ultrasound showed improvements in relaxation to 1.6 cm and the onset of PFM contraction speed to 0.28 s. Although incontinence symptoms remained unchanged, the POP-SS score dropped from 18 to 15. In the following month, she underwent laparoscopic HYE with bilateral salpingectomy and cervical sacropexy and continued her exercise regimen

postoperatively. Her postoperative checkup showed no complications. At the 4-month follow-up visit after HYE, her left LA reached grade 3 with normal endurance and fast contractions (E10/R10/F10). While the right-sided insufficiency persisted at grade 0 at the puborectalis muscle's anterior attachment, the posterior attachment of the pubococcygeus muscle improved to grade 2. The 2D ultrasound showed that PFM lift improved to 0.7 cm, relaxation to 0.95 cm, and the onset speed of PFM contraction to 0.23 s. Incontinence symptoms improved (ICIQ-SF score from 4+2 to 3+2), and the POP-SS score dropped significantly from 18 to 2 after the HYE.

INTERPRETATION OF RESULTS

Significant improvement on the left side, attributed to consistent daily exercise, PFM activation in ADLs, and the use of a home electrostimulator, greatly enhanced the patient's functional status. However, the persistent right-sided muscle insufficiency suggests that physiotherapy alone has limitations. It emphasizes the importance of prevention, recommending that women receive education before childbirth and postpartum check-ups by physiotherapists. This ensures timely PFM training, helping to prevent or minimize irreversible muscle changes caused by avulsion, which can affect the biomechanics of the pelvic floor. The 2D ultrasound and physical examination results provided a foundation for a targeted therapeutic plan, focusing on specific deficiencies. The improvement in incontinence (ICIQ-SF) and prolapse symptoms (POP-SS) is attributable to a well-structured and continually adjusted therapeutic plan and surgical intervention. Monitoring the patient for potential long-term complications such as recurrent prolapse or worsened incontinence symptoms is essential. The patient was advised to continue the exercise regimen and preventive measures to maintain her condition. The exercise routine, including its intensity and dosage, was adjusted during follow-up visits. Further interventions might be necessary to maintain or improve the functional outcomes over time. While the outcomes in this case study are promising, it is important to recognize that these results are specific to the individual patient's condition and circumstances. Future research should focus on the efficacy of combined physiotherapy and surgical approaches in diverse patient populations, particularly those with significant preoperative muscle weakness. Identifying the optimal timing and type of interventions could further enhance patient outcomes.

CONCLUSIONS

This paper emphasizes the value of a multidisciplinary approach, combining surgical intervention with tailored physiotherapy and ongoing patient management to achieve optimal outcomes. Integrating physiotherapy helps surgeons better prepare patients, potentially adjusting surgical approaches to reduce complications like anterior compartment failure. This strategy could offer preventive benefits and improved outcomes for all surgical candidates.

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114 - FLAT MAGNETIC STIMULATION FOR ANAL INCONTINENCE

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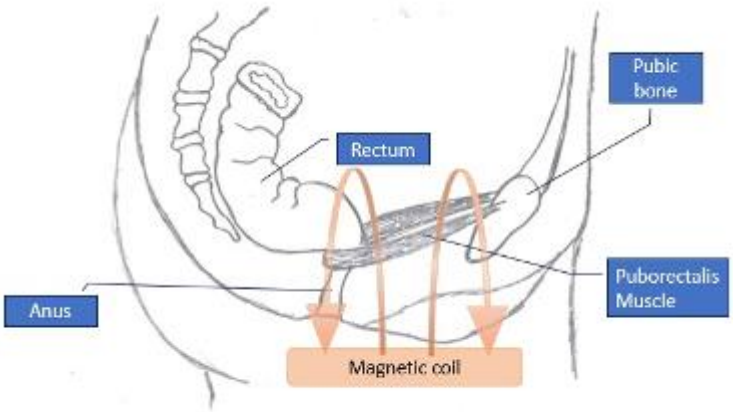
INTRODUCTION AND AIM OF THE STUDY

MS (Magnetic Stimulation) works on neuromuscular tissue by creating a specific electromagnetic field capable of inducing an intense muscular contraction thereby deeply stimulating pelvic floor muscles and restoring neuromuscular function in a non-invasive manner [1]. FMS (Flat Magnetic Stimulation) has a more homogeneous electromagnetic field which permits a greater recruitment of muscle fibers. The aim of the study was to evaluate the effectiveness of this treatment.



MATERIALS AND METHODS

This was a prospective observational study. At baseline and after the treatment, the severity of anal incontinence and sexual function were evaluated through validated St. Mark's and FSFI-19 scores respectively. The subjective improvement rate was determined through the Patient Global Impression of Improvement (PGI-I) questionnaire.

RESULTS

We observed that there was a significant improvement in the St Mark score both absolute (10,3 vs 6,8, p<0,0001) and stratified according to the degree of severity (p < 0,0001), whereas there was no evidence of improvement in sexual function, accessed with the FSF-19 score (p 0,0545). During the treatment there were no adverse events. What's more, according to the PGI-I score 76% of patients (16) experienced an improvement of their condition.

INTERPRETATION OF RESULTS

Anal electrostimulation is currently used often and is recognized as an efficient non-operative treatment for FI, among other rehabilitative treatment modalities. Actually, patients must remove their clothes and have an anal plug inserted; these two aspects significantly impact patients' feelings of shame and discomfort, which makes them decide not to undergo this treatment. FMS is a relatively recent method that combines the benefits of electrostimulation with increased compliance.

CONCLUSIONS

FMS represents an effective and safe non-invasive treatment for anal incontinence, resulting in patients' QOL improvement and decrease of incontinence scores.

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115 - SURGICAL REPAIR WITH BIOLOGICAL MESH OF VAGINAL PROLAPSE AFTER RADICAL CYSTECTOMY

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INTRODUCTION AND AIM OF THE STUDY

Radical cystectomy (RC) is the standard treatment for bladder muscle invasive urothelial carcinoma. Anterior exenteration in female patients involves the removal of the vescico-vaginal fascia, urethra, uterus and adnexa which results in significant changes in pelvic floor support, thus determining in rare cases the development of vaginal prolapse. [1] There is a lack of data on surgical management for prolapse after radical cystectomy; one option that we propose is vaginal repair with biological mesh.

With this video, we aimed to present a case of enterocele vaginal repair in a female patient after RC using a PERMACOL™ mesh.

MATERIALS AND METHODS

A seventy-one-year-old woman was referred to our unit for vaginal bulging and pelvic pain. Her past surgical history included a right quadrantectomy in 2010 for breast cancer followed by radiotherapy, and a radical cystectomy with concomitant removal of vescico-vaginal fascia, urethra, uterus and adnexa in 2021 for a bladder invasive urothelial carcinoma.

Clinical examination revealed a fourth-degree anterior vaginal wall prolapse. After an accurate counselling, the patient underwent to vaginal repair of the enterocele with a PERMACOL™ mesh (COVIDIEN) [Video 1].

RESULTS

No intra and post operative complications were observed. The patient was discharged from hospital in first post operative day.

During the one-, three- and twelve-month follow-up evaluation the patient was asymptomatic and there were no signs of recurrence of vaginal prolapse.

INTERPRETATION OF RESULTS

There is a significant paucity of data on treatment and outcomes for the management of pelvic prolapse after RC. The options for a surgical repair include non-reconstructive techniques, such as colpocleisis, and reconstructive techniques (vaginal or transabdominal), depending on patient variables such as feasibility of vaginal access, patient comorbidities and desire for sexual function [2].

The use of vaginal meshes in such condition is controversial since based on case reports. Synthetic meshes have been reported to give serious complications. This is the reason why we decided to use PERMACOL MESH ™, which is an acellular porcine dermis [3]. PERMACOL™ mesh could therefore be useful in the treatment of enterocele after radical cystectomy: its positioning on thin and fragile tissues close to bowel, determines a lower risk of infection and of intraperitoneal adhesions.

CONCLUSIONS

The use of PERMACOL™ mesh could represent a valid treatment for repairing prolapse after radical cystectomy.

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116 - THE PATIENT JOURNEY IN GSM: WHAT DO WOMEN WANT?

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of the menopause (GSM) includes genital, sexual and urinary symptoms secondary to oestrogen deficiency in the postmenopausal period [1]. Between 50% and 70% of postmenopausal women suffer from GSM, with the most troublesome symptom being reported as vaginal dryness [2]. GSM symptoms appear to have a more significant impact on quality of life when compared to vasomotor symptoms, due to their more chronic nature and their deterioration over time [3].

This study aims to further explore patient understanding of GSM, barriers to accessing care, perspectives on current available treatment options and acceptability of newer treatment modalities.

MATERIALS AND METHODS

We conducted two focus groups (FGs) with women known to be suffering from GSM. Discussions followed a semi-structured interview schedule using two moderators. Relevant themes and subthemes were identified by two independent researchers. NVIVO 11 was used to examine relationships within the data.

RESULTS

The FGs were attended by 15 postmenopausal women. The themes and subthemes identified are demonstrated in table 1.

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Theme	Subtheme
Concerns with accessing care	Lack of general education Lack of GP education Dependent on clinician Lack of access to specialists
Barriers to communication	Not being taken seriously Time restraints Difficulty broaching topic
Ways to improve services	Improved communication skills Discussions regarding sex Providing written information
Ideas to disseminate information	Group teaching Standardisation of terminology GP education

INTERPRETATION OF RESULTS

Although over the counter (OTC) treatments are available, many women aren't aware of this. There are concerns regarding use of vaginal oestrogens from both patients and primary care, despite long term safety data supporting their use. Although few patients have heard of laser treatment for GSM, many of them would consider its use alongside other treatments.

CONCLUSIONS

GSM symptoms are bothersome and have a significant impact on quality of life. Some women feel unable to discuss these symptoms with partners as well as healthcare professionals. Newer treatments, including intravaginal laser, are acceptable to patients despite lack of long-term safety data.

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117 - POSTPARTUM ANAL INCONTINENCE AND ULTRASOUND RESIDUAL DEFECT IN WOMEN AFTER OASI

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INTRODUCTION AND AIM OF THE STUDY

Anal incontinence is a serious social problem. It involves the issue of unwanted gas leakage, stool incontinence, and difficulties with defecation. The prevalence of postpartum anal incontinence is difficult to assess. The main cause of postpartum anal incontinence is traumatic injury to the perineal area, which affects the pelvic floor (both structurally and functionally) after vaginal birth, as well as unrecognised or improperly treated anal sphincter injuries.

The study aims to evaluate the prevalence of ultrasound-detected residual External Anal Sphincter (EAS) defects in women following high-risk vaginal delivery with Obstetric Anal Sphincter Injury (OASI) and to assess whether the severity of anal incontinence is related to the ultrasound-detected residual anal sphincter defect.

MATERIALS AND METHODS

A prospective observational cohort study evaluated women after vaginal delivery who presented with risk factors for anal incontinence. These risk factors included vaginal delivery complicated by obstetric anal sphincter tears, operative vaginal delivery, and birth weight of the newborn exceeding 4000g. Women were examined not before 12 weeks postpartum. The examination comprised a comprehensive urogynecological assessment, which included a four-dimensional (4D) transperineal ultrasound of the pelvic floor and imaging of the anal sphincter using tomographic ultrasound imaging, along with the evaluation of residual defects in EAS. Additionally, subjective perceptions of symptoms related to anal, urinary incontinence, sexual function, and pelvic organ prolapse symptoms were assessed using standard questionnaires. This medium-term, two-year follow-up study (from June 2022 to June 2024) involved women who delivered at the Department of Gynecology and Obstetrics of the University Hospital Brno following obstetric anal sphincter injuries (OASIS). Symptoms of anal incontinence were categorised according to the severity of subjective perception into any symptomatic anal incontinence, serious anal incontinence (flatal and fecal), and assessment quantified using the Wexner score (with a cut-off of ≥ 5/20). These data were analysed.

RESULTS

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Over a 2-year follow-up period, 538 women with risk factors for OASI (fetal weight ≥ 4000g, instrumental delivery, prior OASI) were examined. The average rate of OASI at our institution over the past 2 years is 3.45% out of 11,521 deliveries. From the total cohort of 212 women after OASI with a mean age of 31.6 years (SD 4.1; IQR 29.0 – 34.0), BMI 24.2 kg/m2 (SD 24.2; IQR 21.3 – 26.03), parity 1.17 (SD 0.35; 1.0-1.0), fetal birth weight 3541g (SD 447; IQR 2230-4870), requiring 23 operative deliveries (10.8%), with a follow-up interval of the examination performed on average 13.5 weeks (IQR 9-16) after delivery [Table 1]. One hundred and eighty-three (86%) women had a IIIa/IIIb tear and 29 (13.6%) had IIIc/IV. degree tear. 86 (40.5%) patients reported some symptoms of anal incontinence. But serious anal incontinence (flatus and faecal) was detected in 14 cases (6.6%) with an average of Wexner score 5.2 points. One-third (5 corresponds to 35.7%) of those represented had IIIc +IV injuries. Twenty-two women had a Wexner score of ≥ 5 (10.3%). A residual defect was found in 43 (20.3%) cases and levator avulsion (major) in 51 (24.1%). The average of Wexner score was 1.45 point.

The symptomatic group had residual defect EAS in 23 (26,7%) versus 20 (15,9%) asymptomatic patients. There is a statistically significant association between symptomatic anal incontinence and the presence of a residual EAS (p-value 0.024) [Table 2]. In group with serious anal incontinence was not detected a significant association with residual defect (p-value 0.066). But in serious OASI IIIc+IV, the residual defect was detected in 4 from 5 cases (80%). In the group with a severity of difficulties at a Wexner score of ≥ 5, a residual defect was recorded in 8 women (36.4%), with an average Wexner score of 6.6 points. There is a statistically significant association between a Wexner score of ≥ 5 and the presence of a residual defect (p-value 0.043) [Table 3]. Among 8 of 22 symptomatic patients (36.4%) with a Wexner score of ≥ 5, there were IIIc+IV degree tears, where a residual defect was detected in 62.5% with an average Wexner score of 7 points.

INTERPRETATION OF RESULTS

The overall prevalence of residual ultrasound defects in the entire cohort of women after OASI was 20.2%. The severity of symptomatic anal incontinence is related to the ultrasound-detected residual defect and between a Wexner score of ≥ 5 and the presence of a residual defect

CONCLUSIONS

Transperineal ultrasound revealed a residual defect in one-fifth of women following primary repair for OASI. According to our investigation, the severity of subjective perception of anal incontinence was associated with ultrasound findings of residual defects in the anal sphincter. It remains to be determined to what extent anal continence is affected by functional changes in the pelvic floor, which may regress over time. Given the early identification of patients with risk factors related to perinatal issues, we can initiate intensive care of the pelvic floor muscles complex as soon as possible and effectively implement a diagnostic and therapeutic algorithm for anal incontinence in real-time.

Table 1	**Overall**, N = 212	**Symptomatic**, N = 86	**Asymptomatic**, N = 126	**p-value**[1]
Age (year)				0.569
Range (SD)	31.6 (4.1)	31.4 (3.9)	31.7 (4.3)	
Median (IQR)	31.0 (29.0 - 34.0)	31.0 (29.0 - 33.0)	31.5 (29.0 - 34.0)	
BMI (body mass index, kg/m2)				0.176
Range (SD)	24.2 (4.3)	24.5 (4.4)	23.9 (4.2)	
Median (IQR)	23.3 (21.3 - 26.3)	23.9 (21.3 - 26.9)	23.1 (21.4 - 25.6)	
Parity				0.534
Range (SD)	1.17 (0.39)	1.19 (0.39)	1.16 (0.39)	
Median (IQR)	1.00 (1.00 - 1.00)	1.00 (1.00 - 1.00)	1.00 (1.00 - 1.00)	
Weight of fetus (g)				0.575
Range (SD)	3541 (447)	3548 (455)	3537 (442)	
Median (IQR)	3560 (3245 - 3850)	3600 (3313 - 3818)	3540 (3200 - 3873)	
OASI (type)				0.088
IIIa	115 (54.2%)	43 (50.0%)	72 (57.1%)	
IIIb	68 (32.1%)	25 (29.1%)	43 (34.1%)	
IIIa + IIIb	183 (86,3%)	68 (79,0%)	115 (91,2%)	
IIIc	24 (11.3%)	15 (17.4%)	9 (7.1%)	
IV	5 (2.4%)	3 (3.5%)	2 (1.6%)	
IIIc + IV	29 (13,6%)	18 (20,9%)	11 (8,7%)	

[1] Mann-Whitney *U* test; Fisher's exact test
Median (interquartile range)
Range (Standard deviation)

Table 2	**Residual defect EAS**	**No residual defect EAS**	**Total**	**p-value**
Symptomatic	23	63	86	0,023
Asymptomatic	20	106	126	
Total	43	169	212	
Chi-squared test				

Table 3	Residual defect EAS	No Residual defect EAS	Total	p-value
Wexner ≥ 5	8	14	22	0,043
Wexner < 5	35	155	190	
Total	43	169	212	
Chi-squared test				

118 - TRANSVAGINAL EXCISION OF A LARGE URETHRAL DIVERTICULUM. A VIDEO PRESENTATION.

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INTRODUCTION AND AIM OF THE STUDY

Urethral diverticulum (UD) is a congenital or acquired protrusion of the urethra through the periurethral fascia. It accounts for 64% of periurethral masses in gynecology.[1] UDs in women are rare (0,6-6%) although Incidence is probably underestimated (asymptomatic or misdiagnosed due to non-specific clinical symptoms). The etiology of UDs remains primarily unknown. Prevailing theory is recurrent blockages and inflammation of Skene's glands.[2] The aim of this study is the video presentation of transvaginal resection of a large urethral diverticulum.

MATERIALS AND METHODS

This video demonstrates the method and intraoperative findings of transvaginal excision of a sizable urethral diverticulum.

A 67-year-old woman with no significant medical history, two vaginal deliveries, and a BMI of 24.3 kg/m^2 was admitted to our outpatient clinic with feeling of heaviness and a mass in her vagina, as well as a history of recurrent urinary tract infections. The clinical examination indicated a painful urethral mass. The urethral diverticulum, measuring 26x20x11mm, was discovered by transperineal ultrasonography. Fig.1

RESULTS

After multidisciplinary counselling the patient underwent a transvaginal excision of the urethral diverticulum. Under spinal anesthesia, in the lithotomy position, a U-shaped vaginal flap is elevated. Dissection starts on the shiny layer underlying the mucosa to allow flap mobilization sufficient for subsequent closure. The diverticulum is dissected up to its connection with the urethra using gentle traction on the diverticular wall. Closure is performed in 3-layers with 2-0 Vicryl sutures. This patient had an uneventful recovery with complete resolution of symptoms. Twelve months following the repair she was free of pain, with no episodes of urinary tract infections.

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INTERPRETATION OF RESULTS

The excision of a sizable urethral diverticulum is challenging procedure that requires an experienced surgical team and meticulous preoperative planning.

CONCLUSIONS

The technique of excision of diverticulum with careful preservation of the periurethral fascia, followed by three layers suture closure, is a reliable method for managing urethral diverticula in women.

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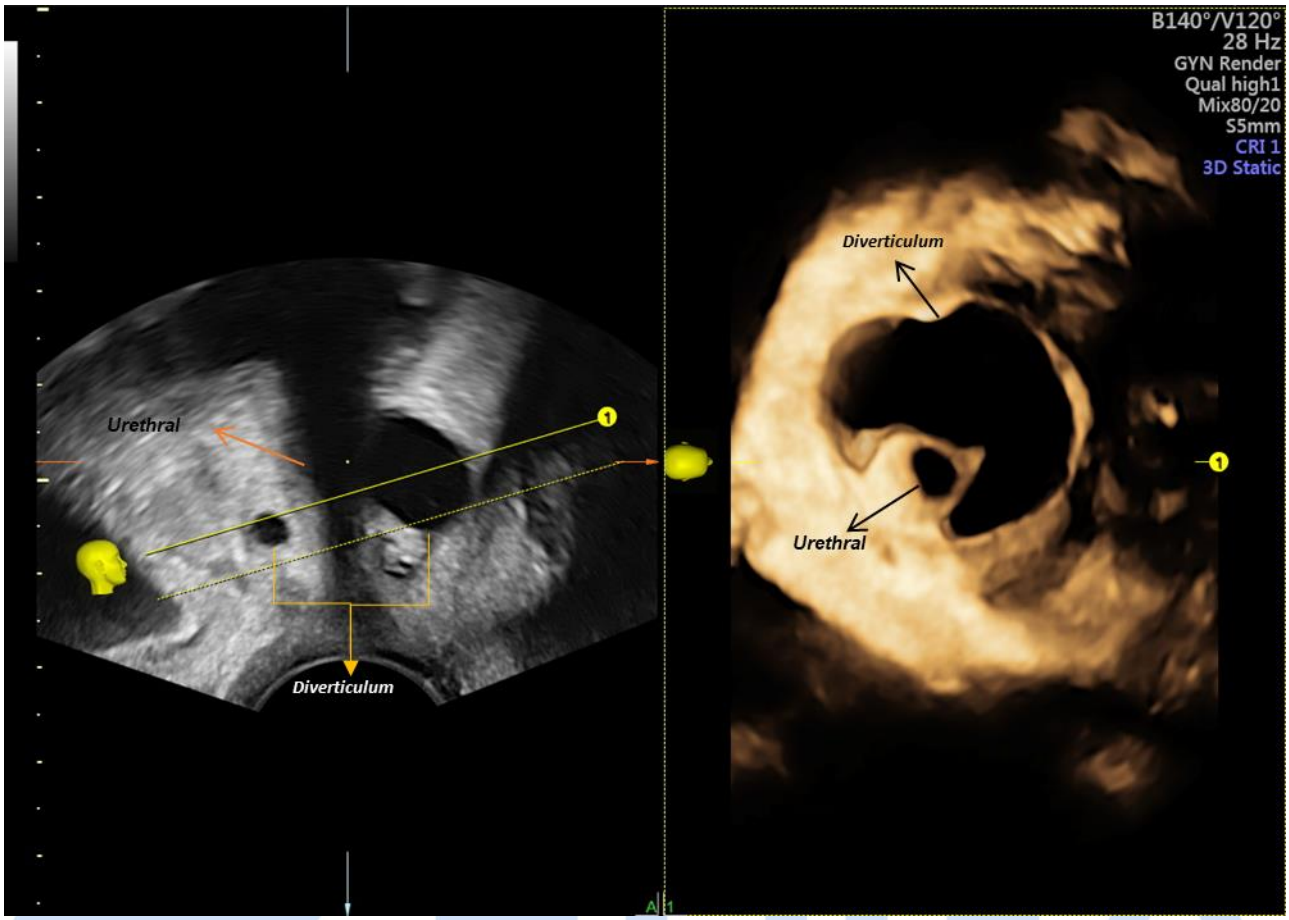

Fig 1: The diverticulum surrounds the urethral, as shown by 3D transperineal ultrasonography.

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119 - DEMOGRAPHIC, SOCIOECONOMIC AND FUNCTIONAL HEALTH-RELATED FACTORS IN THE SELECTION OF VAGINAL PESSARIES USED FOR THE CONSERVATIVE TREATMENT OF PELVIC ORGAN PROLAPSE: A RETROSPECTIVE STUDY

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BACKGROUND

Vaginal pessary therapy is a well-known conservative treatment of pelvic organ prolapse (POP). According to several national guidelines, pessary therapy should be used as a first-line treatment for pelvic organ prolapse. A distinction is made between pessaries that can be worn permanently or require daily control. This therapy is primarily chosen by elderly patients who are not suitable for surgery or by patients not wishing to undergo surgical treatment. The aim of our study was to investigate what demographic, socioeconomic and functional health-related factors play a role in the choice of the pessary types, and to provide healthcare professionals with guidance on recommending a pessary type to patients based on these factors.

METHODS

15 female patients using vaginal pessaries for POP were included in our study (group I: 73 pts used a daily control "cube" pessary (DCP), group II.:42 pts used a long-term wear ring pessary (LTP). Data collection was performed between March 2021 and March 2022 through a personally completed questionnaire or telephone interview. The following factors were investigated: patients' age, fertility, education level, employment status, marital status, independence, hand function, vision, mobility, physical and sexual activity.

RESULTS

A significant difference was found between the DCP and LTP groups in terms of average age (44.9 vs. 75.7 years $p<0.0001$), fertility (61.6 vs. 4.6% $p<0.0001$), employment status (retired: 18 vs. 100% $p<0.0001$), marital status (single: 8.3 vs. 44.1% $p<0.0001$) and educational level (highest: 81.9 vs. 25.6% $p<0.0001$). In terms of lifestyle factors, such as weakened hand function (1.4 vs. 34.9% $p<0.0001$), vision impairment (19.4 vs. 58.1% $p<0.0001$), reduced mobility (5.5 vs. 81.4% $p<0.0001$), sexual activity ratio (87.5 vs. 0% $p<0.0001$), and the level of physical activity (VAS: 9.5 vs. 6.1 $p<0.01$) also significant differences were registered between the DCP and LTP groups.

CONCLUSIONS

The choice of the type of vaginal pessary treatment for POP is influenced by many patient-side factors.

Trial Registration

The study was conducted with the approval of the Regional Institutional Scientific and Research Ethics Committee of Semmelweis University (SE RKEB 97/2022).

Keywords: pelvic organ prolapse, conservative therapy, vaginal pessary, cube pessary, ring pessary

List of abbreviations: POP - pelvic organ prolapse, DCP - daily control pessary, LTP - long-term wear pessary

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120 - CHARACTERISTICS AND OUTCOMES OF OBSTETRIC ANAL SPHINCTER INJURY (OASI) PATIENTS IN A COMBINED PERINEAL CLINIC

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIs) affect 6% of nulliparous women and 2% of parous women, with Asian race being a recognised risk factor for OASI. The establishment of a perineal clinic with a dedicated urogynecologist and pelvic floor physiotherapist at Singapore's largest maternity hospital in 2022 aimed to provide comprehensive care for post-OASI patients. This study aims to characterise patients seen at the new perineal clinic and determine short to medium term outcomes of women following OASI.

MATERIALS AND METHODS

This retrospective study analyses data from 62 patients seen at the clinic between January 2022 and December 2023.

RESULTS

Characteristics and distribution of OASI severity of the patients seen in the perineal clinic are shown in Table 1. The commonest grade of OASI was 3A (48.4%). 4th degree tears affected 9.7%.

Table 1: Characteristics of patients seen at the Perineal Clinic (N=62)

Characteristic	N (%)	Characteristic	N (%)
Age (years)		**Parity (P status)**	
21-25	7 (11.3%)	P1	46 (74.2%)
26-30	20 (32.3%)	P2	11 (17.7%)
31-35	25 (40.3%)	P3	4 (6.5%)
36-40	9 (14.5%)	P4	1 (1.6%)
40-45	1 (1.61%)	Multiparous	16 (25.8%)
≥35 (AMA)	14 (22.6%)		
		Ethnicity	
BMI		Chinese	21 (33.9%)
Range	17.5-37.3 (19.8)	Malay	22 (35.5%)
Mean, SD	25.3 ± 4.27	Indian	8 (12.9%)
Median (IQR)	25 (5.55)	Others	11 (17.7%)
Obesity (≥30)	9 (14.5%)		
		Smoking status	
		Smoker	2 (3.3%)
		Non-smoker	59 (96.7%)
Obstetric factors of patients seen at the Perineal Clinic			
Mode of Delivery at time of OASI		**Fetal Birth Weight (FBW, kg)**	
Normal vaginal delivery	40 (64.5%)	Range	2.3-4.11 (1.81)
Forceps delivery	10 (16.1%)	Mean, SD	3.14, 0.35
Vacuum-assisted delivery	12 (19.4%)	Median (IQR)	3.15 (0.43)
Instrumental delivery	22 (35.4%)	Macrosomia (≥4)	1 (1.6%)
		Gestational Age (GA, weeks)	
		Range	37-41 (4)
		Mean, SD	39, 0.85

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		Median (IQR)	39 (2)
Primary reason for referral to Perineal Clinic			
Obstetric anal sphincter injury (OASI)			
Third-degree tear	56 (90.3%)		
3A	30 (48.4%)		
3B	16 (25.8%)		
3C	9 (14.5%)		
Undefined G3	1 (1.6%)		
Fourth-degree tear	6 (9.7%)		

Prevalence of symptoms seen 3-6 months postnatally is shown in Table 2.

Table 2: Clinical symptoms of OASI patients 3-6 months postnatally seen at the Perineal Clinic (N=62)

Characteristic	N (%)	Characteristic	N (%)
Faecal incontinence	11 (17.7%)	**Urinary incontinence**	34 (54.8%)
Flatus incontinence	11 (17.7%)	Stress urinary incontinence (SUI)	23 (37.1%)
Perineal pain	6 (9.7%)	Urgency urinary incontinence (UUI)	5 (8.1%)
Anorectal fistula	1 (1.6%)	Mixed urinary incontinence	6 (9.7%)
Psychological issues	3 (4.8%)		
Sexual dysfunction	19 (30.6%)		

INTERPRETATION OF RESULTS

Common symptoms 3-6 months postnatally included urinary incontinence (54.8%), flatus and faecal incontinence (17.7% each), perineal pain (9.7%), and sexual dysfunction (30.6%).

Pelvic floor physiotherapy (PFPT) adherence increased by 59.7% post-clinic attendance. Most patients (82.3%) were discharged after the initial visit, while 17.7% received referrals to other specialists or combined clinics. Notably, 5 women with previous OASIs successfully delivered vaginally without further injury.

CONCLUSIONS

This study underscores the value of a multidisciplinary perineal clinic in addressing short to medium-term post-OASI symptoms. Improved PFPT adherence and successful vaginal deliveries post-counselling highlight the clinic's efficacy in intervention. These findings contribute to better understanding and management of OASI-related morbidity, emphasising the importance of specialised care pathways in mitigating postpartum complications among high-risk populations.

REFERENCES (max. 3)

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121 - EARLY EXPERIENCE OF A NEW COMBINED UROGYNAECOLOGY AND COLORECTAL SURGERY PELVIC FLOOR CLINIC

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INTRODUCTION

Patients with pelvic floor dysfunction commonly present with urinary and co-existing bowel symptoms that require multidisciplinary care. The combined pelvic floor clinic (CPFC) service was initiated in Singapore's largest tertiary women's hospital in September 2020 providing joint care by dedicated urogynaecologist and colorectal surgeons.

OBJECTIVES

This study aims to characterize patients seen at the combined pelvic floor clinic (CPFC) established at a tertiary women's hospital in Singapore. Study goals include identification of local patterns of symptom clusters and review of management strategies offered in comparison to international care standards, improvement of local understanding of complex female pelvic floor dysfunction, and guidance of future development of clinical and ancillary support.

METHODS

This is a single-centre, retrospective cohort study of medical case record review for all patients seen at the CPFC between the 1st of September 2020 and 17th of January 2024. All patients seen in the CPFC during this study period were included for analysis. Data was deidentified and aggregated with analysis performed for descriptive and summary statistics using SPSS. Institutional Review Board approval was obtained with waiver of informed consent.

RESULTS

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A total of 155 patients were referred to CPFC, with 9 patients defaulting their appointment, leaving 146 patients included in this study. They were seen over 49 clinic sessions over 41 months with a median waiting time of 34 days from time of referral, and were most commonly referred by Urogynaecology (n=104, 71.2%). Post-menopausal women (n=85, 58.2%) made up the majority of the study group, and baseline characteristics of our study group included age (median=60.5 years, range=63), parity (median=2, range=6) and BMI (mean=24.8, SD= 5.1).

The most common presenting complaint was faecal or flatus incontinence (FI), severe constipation or defecatory dysfunction and rectal prolapse (table 1), with most patients having ≥1 reason for referral (n=105, 71.9%).

Table 1: Reasons for Referral to Combined Pelvic Floor Clinic

Reason for referral	N (%)
Faecal/flatus incontinence	83 (56.8)
Constipation or defecatory dysfunction	33 (22.6)
Rectal Prolapse	12 (8.2)
Previous obstetric anal sphincter injuries, currently pregnant	11 (7.5)
Suspected rectovaginal fistula	7 (4.8)
Chronic pelvic pain	4 (2.7)

In this study group, 74.0% patients (n=108) were referred for combined colorectal and urogynaecological conditions, and 79.5% (n=116) were later diagnosed with combined colorectal and urogynaecological conditions. The urogynaecological conditions diagnosed are summarised in table 2.

Table 2: Urogynaecological Diagnosis of Patients Referred to Combined Pelvic Floor Clinic

Diagnosis	N (%)
Pelvic Organ Prolapse (POP)	57 (39.0)
Stress Urinary Incontinence (SUI)	30 (20.5)
Overactive bladder (OAB)	23 (15.8)
Mixed Urinary Continence (MUI)	21 (14.4)
Urinary Tract Infection (UTI)	14 (9.6)

CPFC patients were managed according to their symptoms and severity. 32.1% (n=47) were discharged after the 1st visit, and 42.5% (n=67) attended ≥ 1 follow-up. Conservative management included biofeedback, physiotherapy, counselling, lifestyle, medications and pessary. Surgical management included 46 offered surgeries, and 11.0% surgeries (n=16) performed by time of collection - 37.5% of which being combined surgeries (n=6). This is summarised in table 3.

Table 3: Management Offered to Patients at Combined Pelvic Floor Clinic

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Management	N (%)
Lifestyle & Diet Modification	81 (55.5)
Physiotherapy	79 (54.1)
Biofeedback	42 (28.8)
Counselling	6 (4.1)
Pharmacotherapy	65 (44.5)
Pessary	20 (20.1)
Surgery	46 (31.5)

CONCLUSION

The provision of a combined multidisciplinary service for such patients is beneficial, with a reduced need for multiple clinic visits, reduced surgical interventions and recovery time, efficient - short time from referral to being seen. Hence, we continue to recommend referrals to the CPFC for patients who can benefit from this. We advocate more studies to be performed to evaluate the long-term outcomes of a combined multidisciplinary service and patient experience.

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122 - UROGYNAECOLOGICAL PROBLEMS ARE THE LEADING INDICATION AMONG OCTOGENARIANS AND NONAGENARIANS FOR HOSPITAL ADMISSION INTO GYNAECOLOGY DEPARTMENT

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INTRODUCTION AND AIM OF THE STUDY

According to the demographic data, increasing life expectancy results in the fact that the percentage of patients over 80 years old is steadily growing. Urogynaecological problems in most cases do not shorten the patient's life expectancy, but can seriously worsen the patient's quality of life.

The aim of the study was to characterise the group of patients over 80 year old hospitalized at the Gynaecology Department and to assess the perioperative risk of the surgical treatment for this group of patients.

MATERIALS AND METHODS

The analysis was based on the retrospective analysis of the medical records of all hospitalizations of the patients in the gynaecology department at the university hospital who at the day of admission were 80 or more years old in the 10 years period (between 2014 and 2023). The number of analysed hospitalizations was 774.

RESULTS

In the analysed period, the growing trend of elderly patients ≥80 years old among all hospitalizations was observed [Fig.1].

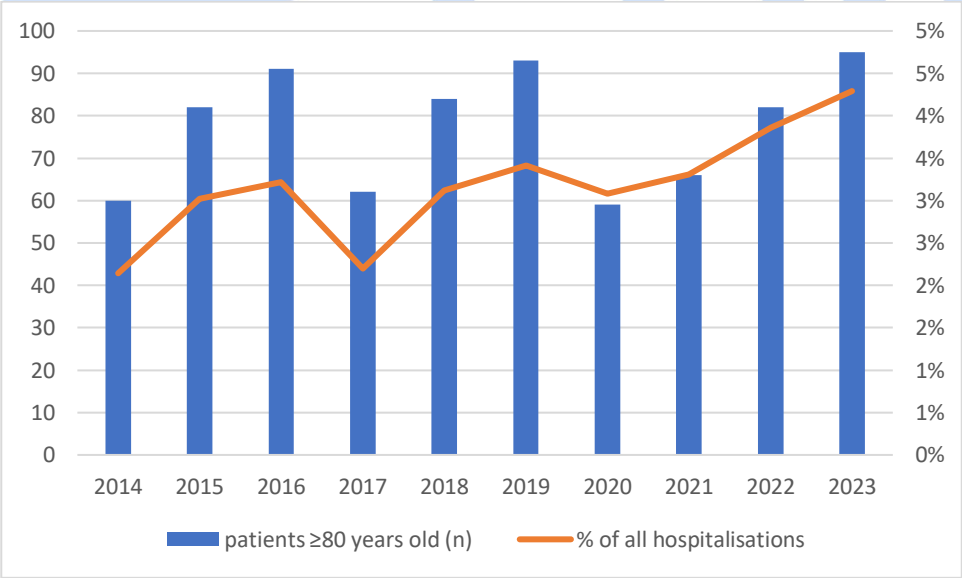

Fig. 1. Increasing trends of octogenarians and nonagenarians admissions.

Percentage of hospitalizations due to urogynaecological problems was about 60%, with temporary downtrend in 2020 and 2021 due to the Covid-19 pandemic.

The biggest group among patients with urogynaecological problems were women with pelvic organ prolapse (around 55% of the group) and isolated or co-occurring stress urinary incontinence (around 50% of the group).

The most common comorbidity was hypertension (45% of the patients). According to the Charlson Comorbidity Index (CCI) 65% of the analysed group had 53% estimated 10-years survival, which was based only on their ≥80 age (no other comorbidities that could lower the life expectancy).

The intraoperative complication rate was about 1%, and the overall risk of surgical complications according to the Clavien-Dindo scale was about 5% with no grade 4 or grade 5 complications.

The most common type of surgery due to the pelvic organ prolapse was the Neugebauer-LeFort colpocleisis, due to the stress urinary incontinence – transobturator midurethral sling implantation.

INTERPRETATION OF RESULTS

The number of hospitalizations due to the urogynaecological problems among elderly patients is growing. There is numerous group of patients ≥80 years old who is in relatively good health condition, with controlled chronic disease, which may benefit from the surgical treatment.

CONCLUSIONS

The surgical treatment of the urogynaecological problems in the group of elderly patients is safe and should be considered after the thorough preoperative assessment of the general health problems.

Proper qualification to the, if possible – minimally invasive surgery can result in low risk of complications and improvement of patient's quality of life.

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123 - SACRO-HYSTERO-PEXY WITH SLIM-SLING FOR UTERINE PROLAPSE IN YOUNG PATIENTS

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INTRODUCTION AND AIM OF THE STUDY

Isolated uterine prolapse is more common in young patients and often accompanied by cervical elongation. For young patients with symptomatic uterine prolapse who desire to preserve fertility, Laparoscopic sacrohysteropexy (LSHP) using SERATEX® SlimSling® mesh offers an effective solution for apical prolapse while maintaining uterine integrity.

MATERIALS AND METHODS

A retrospective cohort study was conducted at our institude, including patients who underwent LSHP with SERATEX® SlimSling® mesh for apical prolapse with uterine preservation from 2014 to 2020. Data were extracted from medical records, covering demographics, intraoperative, and postoperative data. Modified POP-Q measurements (Ba, Bp, C, D) were recorded. Patients were assessed perioperatively and postoperatively at multiple intervals. Follow-up was conducted via telephone interviews by a urogynecologist.

Surgical technique: The SlimSling is a polypropylene mesh with a needle attached to one end, facilitating cervical attachment. The sling can be secured to the promontory using the same needle or alternative techniques such as takers. In cases of cervical elongation, the procedure can be performed after cervical shortening.

The video demonstrates LSHP in a 42-year-old patient. The peritoneum is opened above the promontory and on the cervix. A specially designed trocar (SERAPRO RTD-Ney) creates a tunnel beneath the peritoneum. The SlimSling is attached to the cervix twice, forming a double string and then guided to the promontory under the peritoneum and secured with two takers (A 3-minute video can be provided.)

RESULTS

Twenty-five women underwent LSHP in our institute, with a mean age of 46 years. Most patients presented with isolated apical prolapse without additional symptoms. Intraoperatively, 75% underwent concomitant cervical shortening, 10% had anterior colporrhaphy, and 30% received a mid-urethral sling. The mean surgery duration was 112 minutes, with no post-operative complications reported.

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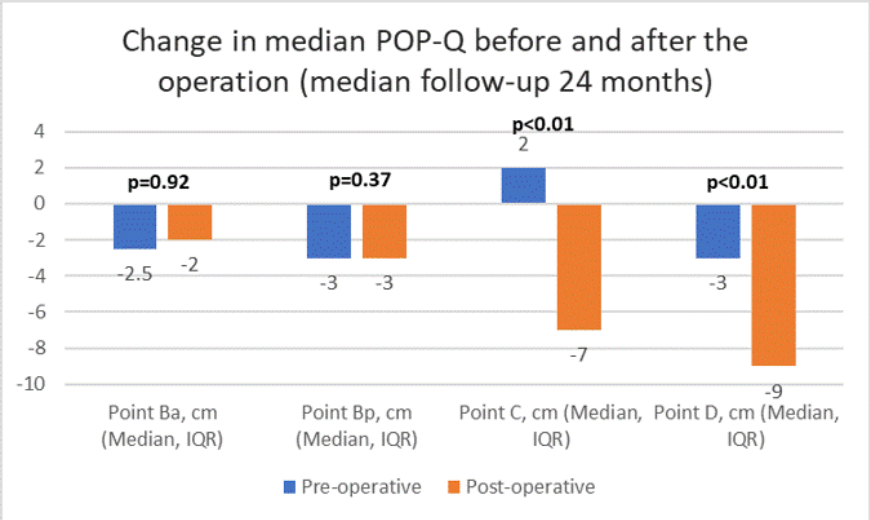
The median follow-up period was 66 months. Sucsses rate was high with only 3 patients (12%) experienced prolapse recurrence, primarily cystocele, with two requiring reoperation (Fig 1). Long-term telephone interviews revealed high satisfaction rates, with 76.2% of patients reporting being very happy and 14.3% happy with the surgery results.

Four patients conceived and delivered post-procedure, all via cesarean section, without recurrence of prolapse.



P-values indicate the statistical significance of the differences between each point pre- and post-operatively.

CONCLUSIONS

LSHP with the SERATEX® SlimSling® mesh for isolated uterine prolapse demonstrates a strong safety profile, durable long-term outcomes, high patient satisfaction, and favorable pregnancy outcomes. This procedure offers a viable, minimally invasive option for uterine preservation.

124 - INTERIM ANALYSIS OF A POSTNATAL PELVIC FLOOR STUDY

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INTRODUCTION

Childbirth often leads to the weakening of the pelvic floor, resulting in symptoms like urinary incontinence. Targeted pelvic floor training is proven to improve function, and bio-feedback devices have become increasingly important as they provide real-time feedback, improving training effectiveness. Despite growing recommendations for their use, data on their real-world effectiveness and acceptance remain limited. This project aims to evaluate the impact of bio-feedback devices on pelvic floor recovery post-childbirth, focusing on the reduction of incontinence symptoms and muscle strength improvement. Secondary goals include assessing patient quality of life, satisfaction, and compliance, to inform evidence-based recommendations for postnatal pelvic floor training.

METHODS

This research will include nearly 400 postpartum women from July 1, 2023, to September 30, 2024.

Inclusion criteria are: Patients must be over a age of 18 and must have completed the postpartal period. Exclusion criteria are: serious cardiovascular or neurological disorders, chronic inflammatory bowel diseases, severe psychiatric conditions, and infectious urological disorders.
Patients participating in the research will be involved in an organized pelvic floor exercise regimen with the assistance of a bio-feedback tool. The evaluation of the intervention will rely on patient-reported outcomes gathered at three specific time points: right after childbirth (baseline), at 6 months, and at 12 months after childbirth.

This is an internal analysis of our pelvic floor study. It shows a descriptive statistics of the patient collective and the use of the biofeedback device.

RESULTS

As of the interim analysis, 333 participants were enrolled, with 115 completing the first follow-up and 16 completing both follow-ups. For this analysis, 50 participants were randomly selected from those who completed the first follow-up. Device usage varied significantly among these participants: 32 used the bio-feedback device 1-10 times, two used it 11-20 times, two used it 21-30 times, and two used it extensively (61 and 75 times, respectively). The remaining participants did not return the device and have disengaged from the study. Below you can see some of the main results of the participants in table overviews:

Table 2: maternal characteristics

	Median (Range)	percentage	N (%)
Examinations			50 (100)
Maternal characteristics			
BMI prepatal	23,62 (17,5-43)		
BMI antepartum	26,69 (22,5-31,2)		
delivery mode*			
sectio caesarea		33%	
spontaneous partus		44%	
Vacuum extraction		23%	
parity:			
P1		47%	
P2		21%	

P3	26%
P4	7%
nicotine consumption	0%
highest educational qualification	
a-level	91%
secondary school	9%
ethnicity european	100%

*Only the final birth mode is evaluated

Table 3: descriptive analysis of urinary incontinence

	percentage	**percentage**	**percentage**
urinary incontinence	before pregnancy	Prenatal (40. week)	Postpartal (6 months after)
No urinary incontinence	72%	20%	67%
Incontinence with coughing	21%	42%	33%
Constant incontinence	2%	6%	0%
Incontinence before reaching the toilet	2%	10%	0%
Drip incontinence	2%	6%	0%

DISCUSSION

Urinary incontinence often diminishes in the immediate postpartum period but tends to resurface and worsen with age. According to other studies this study this far also indicates that 33% of postpartal women reported some degree of urinary incontinence. This highlights the critical need for better education and awareness among pregnant and postpartum women regarding the importance of consistent pelvic floor training. While many women do not regularly use the bio-feedback device, most report engaging in self-directed pelvic floor exercises. Ensuring that these women understand the long-term benefits of structured training could improve adherence and outcomes.

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125 - COMPLICATION AND REGENERATIVE EFFECT OF CO2 LASER BASED ON ITS MISUSE OR PROPER USE

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of menopause (GSM) is a collection of symptoms and signs associated with a decrease in estrogen, involving histological changes in the labia majora and minora, clitoris, vestibule/introitus, vagina, urethra and bladder, such as: reduction of type I collagen and loss of trabecular arrangement on the fibrils, decrease quantity of elastic fibers, reduced vascularization, thinning and flattening of the vaginal epithelium, which can superficially transform into a keratinized layer. Microablative fractional CO2 laser is a physical therapeutic strategy to alleviate symptoms. Its action consists in the interaction with heat shock proteins 43,47 and 70 resulting in a local increase in growth factors and activation of fibroblasts, leading to an increase in epithelial thickness, collagen and papillae, and an increase in vascularization. It is a minimally invasive, safe treatment that does not cause fibrosis; however, it is necessary to know the appropriate setting parameters since an incorrect setting can have harmful effects. Heat generated in the dermis reaches a thermal dose threshold, above which collagen begins to denature (60°C) and to fully denature (70–75°C). Temperature at 40–45°C induce production of collagen by fibroblasts. However, surface temperatures of the skin exceeding 45°C have been correlated with pain and thermal burns. We propose a case report that shows the effects of an incorrect parameter setting in a patient with GSM.

MATERIALS AND METHODS

The patient is A 65 years-old, female, nulliparous, in spontaneous menopause since the age of 52. She had never taken hormone replacement therapy (HRT). The most relevant event of her remote pathological history is a CIN3 with conization in 2002. From 2018 to 2022, she performed a CO2 vaginal laser cycle in another private center, due to a severe vulvovaginal atrophy. She came to our attention in 2023 because the portio was not visible. During gynaecological examination we found collapsing of vaginal walls with a residual vaginal canal length of approximately 2 cm, due to the presence of synechiae similar to a vaginal septum which closed the upper two-thirds of the vagina and the cervix, preventing its visualization. Because of this condition, the patient could not carry out pap-test follow-up for her previous pathology neither sexual activity. Patient refused surgical treatment so, it was proposed a combination treatment with fractional microablative CO2 laser and pelvic floor rehabilitation.

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RESULTS

The patient has been treated for about 18 months. She performed twenty-two sessions, one per month, of CO2 laser therapy, initially with low fluency. The device was set according to a progressive scheme based on patient's tolerance. In the same period, the patient performed a combined treatment consisting of vaginal massages with local estrogen creams, performed twice a week by dedicated midwife, and daily home use of specific dilators with rounded tip. At the eighteenth laser session the cervix was visible on transvaginal ultrasound, while at the twenty-second laser session a valid pap-test with a negative result was obtained. Patient has progressively used dilators of major length, trading on the pressure exerted in a sitting position to maintain the vaginal length reached. Combined treatment has proven effective. After 18 months a vaginal length of 6 cm was reached, and cervix was visible. Patient periodically continues to use dilators, local estrogenic therapy and undergoes laser sessions to maintain a good vaginal trophism.

INTERPRETATION OF RESULTS

The CO2 laser therapy results in a significant improvement in GSM symptoms, with an excellent safety profile in term of the absence of epithelial or lamina propria damage or clinical side effects. The present case report, in addition to demonstrating the exponential increase in the effectiveness of CO2 laser treatment when combined with pelvic floor rehabilitation, also wants to underline that even such a safe treatment can be harmful if practiced by inexperienced or inadequately trained medical staff, who do not know the correct setting of the device. It is important to notice that the same energy-based device used inappropriately creates dangerous damage, however, if used appropriately, it can even solve the problem.

CONCLUSIONS

Microablative fractional CO2 laser treatment must always be performed using the validated scheme to avoid thermal damage and fibrosis of the treated tissue. The treatment must be carried out by adequately trained medical staff. It is essential to know the mechanisms of the device and the set of standardized protocols and guidelines that have been scientifically proven to be safe and effective. Using a validated scheme ensures that the treatment is performed adequately, reducing the risk of adverse effects such as thermal damage (burns) or fibrosis (thickening or scarring). For this reason, medical competence certificates are required as proof that a practitioner has met specific education and training standards to perform the device. Such certifications are often mandated by regulatory bodies to maintain high standards of patient care and to help to assure patients that they are in the care of qualified professionals, reducing the likelihood of medical errors and improving patient trust in the procedure.

In conclusion, the combination of the two treatments allowed to resolve the adverse event using conservative treatment. The home therapy, carried out consistently by the patient, was essential to achieve the predetermined results.

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126 - COMPARISON OF COMPLICATIONS AND RESULTS BETWEEN TWO TYPES OF MESH FOR VAGINAL VAULT PROLAPSE REPAIR BY FIXATION TO SACROSPINOUS LIGAMENT (SUREFLIFT vs CALISTAR)

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common condition affecting women, often resulting in significant impact in quality-of-life.[1] The development of apical prolapse is primarily associated with risk factors such as vaginal parity, previous hysterectomy, and other potential connective tissue, neural, or muscular defects. Indications for apical prolapse repair generally consist of symptomatic prolapse in women who decline or fail conservative therapy and who can tolerate surgery. Various surgical techniques, including sacrospinous ligament fixation (SSLF) using a mesh system, are available to correct vaginal vault prolapse.[2]

This study aimed to compare the incidence of complications and surgical outcomes between two types of mesh (Surelift system ®and Calistar system®) used in SSLF for vaginal vault prolapse repair.

MATERIALS AND METHODS

We conducted a retrospective cohort study involving 44 women with symptomatic pelvic organ prolapse (stages II to IV) who underwent vaginal vault prolapse repair at our institution with SSLF using a mesh system over the past 5 years (between 2019 and 2023). Descriptive statistics for the total study population are presented in table 1. The study population included 26 women who received Calistar system® and 18 who received Surelift system®. We evaluated intra-operative and post-operative complications, surgical duration, hospitalization period, and recurrence rates. Variables between groups were compared with a p-value <0.05 considered statistically significant. Analyses were conducted using IBM SPSS Statistics® 26.

RESULTS

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There were no statistically significant differences between age, BMI and parity between women in the two groups.

Intra-operative complications were minimal, with only one reported case related to mesh malfunction. Post-operative complications occurred in 9 cases, including graft exposure in 4 cases %and recurrence of prolapse in 5 cases %, with no statistically significant differences observed between the two mesh groups. Patients who developed complications after hospital discharge had a statistically significantly longer hospitalization period after surgery (3,64 vs 4,33, p = 0.037). However, no significant differences were found between the two groups regarding overall surgery time or hospitalization duration.

CONCLUSIONS

Our study found no statistically significant differences in the incidence of complications or surgical outcomes between the Surelift® and Calistar® mesh systems used in sacrospinous ligament fixation for vaginal vault prolapse repair. Both meshes demonstrated similar profiles in terms of safety and efficacy. However, patients who developed post-operative complications had extended hospital stays, highlighting the importance of close post-operative monitoring in this subset of patients. In our institution, we continue to encounter cases where vaginal meshes are deemed the optimal solution for the correction of apical prolapse, in accordance with FIGO recommendations. Given that both systems utilize polypropylene, macroporous mesh, it is not surprising that they demonstrate similar outcomes, as we had anticipated.[3]

Table 4. Descriptive statistics for the total population

Individual variables	*n*	*Mean*	*Standard deviation*
Age (years)		66,8	6,44
Parity		2,10	1,26
Post-menopausal status	44		
BMI (kg/m^2)		25,81	4,97
Years since histerectomy		9,66	8,40

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127 - SHOULD WE CHANGE HOW WE EDUCATE HCPS ABOUT PERINEAL TRAUMA?

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AIM/ BACKGROUND

Education on perineal trauma can be improved. Only 50% of midwives have had training in detection of perineal tears (Roper at al. 2023). Perineal trauma happens in 9 of 10 patients who have a vaginal delivery (McClandish,1998). Of these, Obstetric anal sphincter injuries occur in 1-6% of women(Thiagamoorthy et al. 2014).

It is important to teach midwives and trainee obstetricians the importance of detection and repair of perineal trauma. This qualitative study aims to survey a change in the mode of education to small group teaching and hands on practice to enable midwives to be confident in this area of practice.

METHOD

An anonymous survey was obtained from midwives in a small Obstetric unit delivering 600 babies a year. They had undergone teaching in small groups of 1-4 with a dedicated training session on perineal trauma education, performing episiotomy and hands on training for prevention and repair.

RESULTS

The training was delivered to 35 midwives in the small group format. Feedback was obtained from 26 of them with a standard feedback form. The satisfaction was 9.15 on a scale of 9-10. Small group teaching was thought to be effective and efficient. The hands-on method for guarding the perineum and performing episiotomy enabled them to be more confident in their practice. The use of small groups helped them to be able to ask questions without fear of judgement. 18 of the 26 midwives felt supported in their role in management of perineal trauma. Midwives expressed an interest to enable education in this format for future training.

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CONCLUSION

Perineal trauma remains a common reason to affect quality of life if not managed appropriately during parturition. Effective education of midwives, who are often the only care giver to the woman in labour, will improve the standard and quality of care. It is time to think about a change in the way this training in delivered. Small group teaching is a popular and effective method of training in this area.

128 - RECTAL MESH EROSION AFTER VAGINAL PELVIC PROLAPSE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

Synthetic mesh is a common method of treating pelvic organ prolapse (POP). The treatment involves implanting the mesh so that it forms a sling to support the bladder and relieve symptoms. Mesh erosion is a recognized complication of this surgery, particulary by vaginal approach. Rectal mesh erosion is rare however, and its management can be complex [1,2]. We report an unusual case of rectal mesh erosion after anchorless self-retaining support implant [3] presenting 3 years after vaginal mesh surgery.

CASE REPORT

The 81-year-old patient experiencing genital prolapse initially underwent a vaginal surgery with implantation an anchorless self-retaining support implant. A 18 month follow-up consultation demonstrated a vaginal erosion. The patient refused a second operation to explant the mesh. At 3 years after the surgery, the patient presented with permanent pain and bowel disorders at the rate of 50 stools per day. Colonoscopy revealed erosion of the prosthesis into the rectum. A transrectal resection of the prosthesis was performed with the insertion of an endo-sponge and a temporary diverting colostomy. The patient recovered uneventfully. At a 2-month follow-up visit, she had no signs of vaginal or rectal fistula and no recurrence of pelvic floor descent.

CONCLUSIONS

Although rectal mesh erosion is a rare outcome after prolaps surgery, surgeons need to have a high level of caution and concern when dealing with this complication and should have a high index of suspicion when patients present with unusual symptoms after pelvic surgery, especially when mesh was used.

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129 - UTERINE PROLAPSE DURING PREGNANCY: A CASE REPORT AND LITERATURE REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Uterine and cervical prolapse is a rare occurrence in pregnancy. It can be associated with minor cervical desiccation and ulceration to pregnancy complications. The scope of complications includes antepartum complication such as urinary retention, abortion, preterm labor, premature delivery; intrapartum complications such as inability to attain adequate cervical dilatation, cervical laceration and obstructive labor or puerperal complications. Recommendations regarding the management of this rare but potentially harmful condition are scarce and outdated. Our aim was to present the clinical case we have had recently in our tertiary hospital and review the current literature on uterine prolapse during pregnancy.

MATERIALS AND METHODS

We present a case of a pregnant woman who developed uterine prolapse during at the 36th week of pregnancy and the issues surrounding her antenatal and intrapartum management.

We conducted a review of the risk factors of uterine prolapse and the antepartum, intrapartum and puerperal complications that may arise from this dysfunction as well as therapeutic options available. Electronic databases (PubMed and Embase) were searched using terms "uterine prolapse" AND "pregnancy" AND "etiology" OR "risk factors" OR "diagnosis" OR "therapy" OR "management" limited to the English language and between the years 1980 and July 31st, 2024

RESULTS

This is the case of a 37-year-old woman who presented at 36.1 weeks of gestation at obstetrics emergency room of a tertiary hospital for moderate pelvic pain and symptom of nodule in vagina of few days of evolution without uterine contractions. Pelvic examination in dorsal lithotomy position revealed a stage 3 uterine prolapse with thick edematous/violaceous cervix. Therefore, advanced apical prolapse was diagnosed, and the obstetric team decided to reduce the uterine prolapse with sterile medical gauze packing and subsequently placement of an 80mm diameter ring pessary. Subsequent pregnancy controls were normal until the day of delivery. The pessary was removed without incident with a cervical dilatation of 3cm, thereafter attending an eutocic delivery without complications. No abnormal findings or complications were reported. The patient had uneventful puerperal course with a significant reduction in uterine prolapse. Six weeks post-delivery, assessment in the urogynecology outpatient clinic revealed spontaneous resolution of the prolapse. The woman was advised to perform pelvic floor muscle exercises and to seek medical advice if the condition recurred.

Obstetricians should be aware of this rare condition in pregnancy, as proper early diagnosis is crucial for a safe, uneventful pregnancy. Most diagnoses are made based on symptomatic prolapse on examination. Management strategies included bed rest, pessary use, and surgery (typically during the early second trimester). Complications include antepartum complications as preterm delivery, patient discomfort, urinary retention, and urinary tract infection; intrapartum complications as not achieving cervical dilatation or cervical laceration or puerperal complications. Delivery methods included both cesarean and vaginal deliveries.

INTERPRETATION OF RESULTS

While early recognition and appropriate prenatal management of uterine prolapse during pregnancy is mandatory, implementation of conservative treatment modalities throughout pregnancy, these applied in accordance with the severity of the uterus prolapse and the patient's preference, may be sufficient to achieve uneventful pregnancy and normal, spontaneous delivery.

CONCLUSIONS

This case report highlights the effectiveness of a ring pessary for uterine prolapse in pregnancy.

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130 - FROM IMPOSSIBLE SEXUAL INTERCOURSE BACK TO NORMAL LIFE FOR A YOUNG GIRL: A CASE REPORT FROM A FUNCTIONAL GYNAECOLOGY APPROACH

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INTRODUCTION AND AIM OF THE STUDY

A 24-year-old girl referred to our clinic in February 2024 for important superficial dyspareunia strongly affecting her quality of life and relationships. She has been suffering from this issue since the 2022 autumn. In that period, she contracted an infection from Chlamydia, which was solved. However, she was never able to have a healthy sexual life from that moment. At our first encounter she declared she had no complete penetrative intercourses for a year. At the visit she referred pain at the vaginal fourchette where some lesions (like post-menopausal women) were visible. The patient is totally healthy, has a normal lifestyle and assumed oral contraceptive. She was visited by many other specialists, being strongly psychologically proven by the situation in the whole.
Our aim was to allow this young patient to have a healthy life from the sexual point of view with penetrative intercourses.

MATERIALS AND METHODS

Every single time we admitted the patient in the outpatient clinic (every two weeks) we performed a gynaecological examination and interviewed her about her physical and psychological state.
We also asked her we asked her to complete an international standardized questionnaire about her sexual quality of life: the FSFI.
We immediately referred the patient to the pelvic floor rehabilitation centre. She started the cycle of rehabilitation with biofeedback and penetrative cones.
After a month we decided to inject biostimulants (Hydrodeluxe, Neauvia®) exactly where the lesions were present. We had no significative results and, therefore, we decided for plasma rich in platelets (PRP) injections. Once again, she could not have penetrative intercourses.
We decided, at that point, for botulinum toxin A injection. The patient had a degree of elevator ani hypertonus but, mostly, we wanted to target P protein and, consequently, downregulating nociception.
At this time, she tried a penetrative sexual intercourse with success. Although, she still referred a degree of pain. We opted at this point for radiofrequency (FormaV, INMODE®) on the fourchette, with three treatments (one every week).

RESULTS

In June 2024 the patient reporting having a full penetrative intercourse without pain. Her FSFI levels from zero (no sexual intercourse) arrived at a maximum of 21. At the gynaecological visit some small lesions are still visible, probably due to second intention cicatrisation of tissues. Our clinical planning is to act on them with biostimulation and radiofrequency.

CONCLUSIONS

At the end we used a multimodal approach with this patient. We deeply think every patient need a tailored treatment and, such in this case, all alternatives may be examinated. Ad researchers, we actually do not know which of the many treatments she underwent was the resolving one. Most probably, the combination of botulinum toxin and radiofrequency, demonstrating once again the synergistic effect of multiple treatments, leading to success.

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131 - LEARNING CURVE FOR UTEROSACRAL LIGAMENTS SUSPENSION FOR PELVIC ORGAN PROLAPSE REPAIR

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) involves the descent of pelvic organs into the vaginal cavity due to weakened pelvic floor muscles. Surgical interventions are common, with approximately 200,000 procedures annually in the US. Surgical approaches prioritize apical support preservation, often using native tissue for reinforcement. The uterosacral ligament suspension (USLS) via vaginal approach offers advantages in cost and time. Presently, there is a resurgence of interest in transvaginal native-tissue procedures for pelvic floor reconstructive surgery, driven by factors such as cost-effectiveness and the desire to avoid complications associated with mesh. However, the declining use of this approach may result in insufficient exposure for residents and gynaecologists to acquire vaginal surgical skills. Our study aims to comprehensively assess the learning curve associated with vaginal hysterectomy, considering the impact of experience on operative outcomes, complications, and patient results.

MATERIALS AND METHODS

This retrospective single-center study analyses consecutive patients who underwent vaginal hysterectomy followed by high uterosacral ligament suspension for pelvic organ prolapse (POP) performed by one pelvic floor surgeon in training at Fondazione IRCCS San Gerardo dei Tintori Hospital in Monza, Italy, between November 2021 and February 2023. Patients underwent transvaginal hysterectomy and salpingectomy, with additional procedures as necessary, followed by high uterosacral ligament suspension. Follow-up assessments were performed periodically to evaluate symptoms and determine objective recurrence. Comparative analyses were conducted on preoperative POP-Q stages, demographic attributes, perioperative outcomes, and recurrence rates. Additionally, we utilized cumulative summation (CUSUM) analysis to examine the learning curve associated with vaginal hysterectomy accompanied by high uterosacral ligament suspension, focusing on surgical failure and operation duration.

RESULTS

A total of 43 patients were included in the study. The population had a median age of 62 years and a mean menopausal onset age of 49.7 years. Symptoms included bulging (100%), with 70% reporting bladder emptying difficulties. All patients exhibited stage II or higher anterior compartment prolapse, and the majority had stage II or higher central prolapse. Vaginal hysterectomy and uterosacral ligament suspension were performed on all patients, with additional repairs as needed. The median operative time was 119.45 ± 20.4 minutes, with a mean blood loss of 303.3 ± 107.9 mL.

INTERPRETATION OF RESULTS

Postoperative assessment utilizing the POP-Q system revealed significant improvements in the anterior ($p<0.001$ for Aa and Ba), central ($p<0.001$ for C), and posterior ($p<0.001$ for Ap and Bp) compartments compared to preoperative measures. Additionally, a decrease in the genital hiatus and an increase in the perineal body were noted ($p<0.001$ for gh and pb). Functional outcomes demonstrated a substantial improvement in micturition symptoms and vaginal bulging compared to baseline ($p<0.001$). Recurrence rates were 9.3% for the anterior compartment and 2.3% for the central compartment. The CUSUM analysis indicated proficiency in operation time after the 30th procedure, while surgical proficiency, defined by surgical success, entails no recurrence within 12 months postoperatively, was stabilized after 22 cases. (Figure 1 and 2)

CONCLUSIONS

Vaginal uterine ligament suspension not only stands as a safe and cost-effective modality for repairing pelvic organ prolapse but also boasts a brief learning curve, facilitating rapid enhancement in surgical proficiency within a condensed time frame, particularly in terms of blood loss, anatomical recurrence, and subsequent reintervention.

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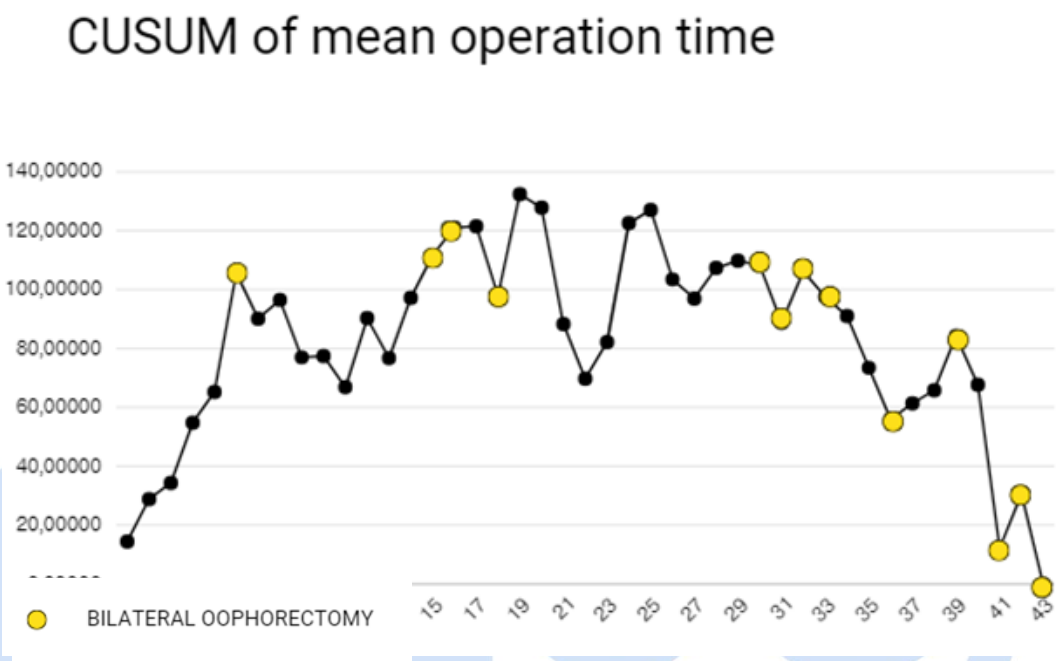

Figure 1 The cumulative sum (CUSUM) control chart analysis of mean operation time

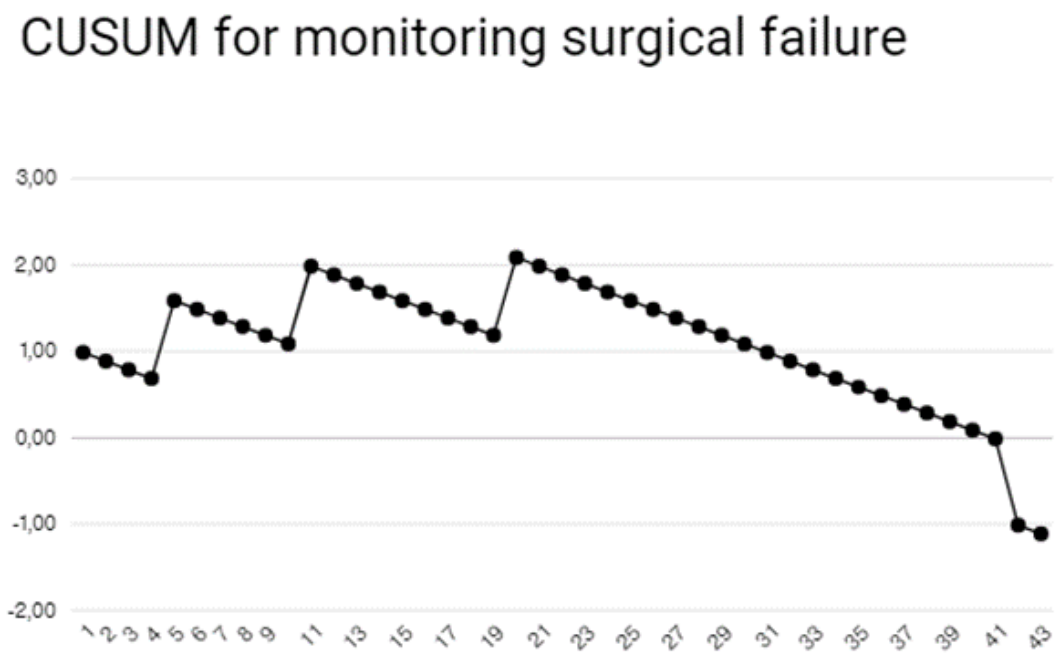

Figure 2 The cumulative sum (CUSUM) control chart analysis of surgical failure

132 - VALUE-BASED HEALTHCARE IN UROGYNAECOLOGY; A SCOPING REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Given the current and increasing pressure on healthcare systems, value-based healthcare (VBHC) is becoming increasingly important. VBHC focusses on offering the best possible care to patients, in an acceptable or better ratio to the costs incurred. The aim of this scoping review is to create an overview of the existing initiatives for the implementation of VBHC in urogynaecology and to study the effects that have been achieved.

MATERIALS AND METHODS

A literature search was conducted in Medline and Embase up to March 2024. All original studies concerning an initiative related to VBHC and related to a topic in urogynaecology were included in the review.

RESULTS

Studies regarding the organization of care (pathways), payment models and the structural use of patient-centred outcome sets in care for patients with prolapse, urine incontinence or pelvic floor disorders in general were identified. A preliminary inventory led to 15 studies for evaluation.

INTERPRETATION OF RESULTS

An overview was created, providing insight into the type of intervention and its relation to VBHC, the context of the intervention, the specific patient population and the results achieved.

CONCLUSIONS

Few studies have critically assessed VBHC in urogynaecology. However, the available results are predominantly positive and promising. To efficiently improve care for patients in urogynaecology, more research is needed on possible interventions and their effectiveness. Moreover, the possibility of distributing these interventions on a larger scale is an important aspect.

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133 - BEYOND THE NUMBERS: IMPACT OF OBESITY ON OASIS OUTCOMES IN WOMEN

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INTRODUCTION AND AIM OF THE STUDY

Obesity, a growing global pandemic, has significant health implications, especially during pregnancy and childbirth, where it is associated with a range of adverse outcomes. This study aimed to compare the risk profiles, anatomical, and functional outcomes between obese and non-obese women who experienced Obstetric Anal Sphincter Injury (OASI).

MATERIALS AND METHODS

A retrospective electronic database study was conducted at Cork University Maternity Hospital (CUMH). Women with missing data or repairs conducted outside CUMH were excluded. Participants were categorized into obese (BMI ≥30 kg/m²) and non-obese (BMI <30 kg/m²) groups. The primary measure was a composite adverse outcome assessed 6 months post-delivery, including one or more of the following: resting pressure <40 mmHg, squeezing pressure <100 mmHg, and defects in the internal and/or external anal sphincter. Statistical analyses were performed using SPSS Version 28.

RESULTS

Among the 349 women included in the study, 285 (81.7%) had a BMI <30 kg/m² and 64 (18.3%) had a BMI ≥30 kg/m². Gestational diabetes was significantly higher in obese women. No significant differences were observed in newborn weight or mode of delivery. The majority of tears were classified as grade 3B in both groups. Attendance rates at the OASI clinic did not differ between the groups. Among those attending, no statistical differences were noted in manometry results, which were reduced in both groups. Rates of internal anal sphincter defects were lower in the obese group (7.0% vs. 15.6%, p=0.15) and external anal sphincter defects were significantly lower in obese women (0% vs. 9.1%, p=0.04). No difference was found in the rates of composite adverse outcomes between the groups.

INTERPRETATION OF RESULTS

Functional outcomes and manometry results did not differ significantly between obese and non-obese women. However, non-obese women had higher rates of anatomical defects, suggesting that obesity may have a protective effect against certain types of sphincter damage.

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CONCLUSIONS

Obese and non-obese women had similar functional outcomes after OASI, but non-obese women had higher rates of anatomical defects. These findings highlight the need for further research into the mechanisms behind these differences and the potential protective role of obesity in OASI outcomes.

Clinical Outcomes and Perineal Clinic Assessments by BMI Category

Variable	BMI<30 kg/m², N=186	BMI≥30 kg/m², N=43	P value
Faecal symptoms, N (%)	48 (25.8%)	8 (18.6%)	0.31
St. Marks Score, Median (IQR)	0 (0-2)	0 (0-1)	0.17
Rest pressure, Median (IQR)	31 (25-39)	37 (30-43)	<0.01

Squeeze pressure, Median (IQR)	56 (46-72)	65 (54-73)	0.03
EUS defect to internal anal sphincter, N (%)	29 (15.6%)	3 (7.0%)	0.15
EUS defect to external anal sphincter, N (%)	17 (9.1%)	0 (0.0%)	0.04
Patient referred to colorectal specialist, N (%)	9 (4.8%)	1 (2.3%)	0.47
Composite adverse outcomes N (%)	174 (93.5%)	39 (84.7%)	0.50

IQR – interquartile range
EUS- Endo Anal Ultrasound Composite adverse outcome; having one or more of the following: Rest pressure<40mmHg, Squeeze pressure<100mmHg, Defect to internal anal sphincter, Defect to external anal sphincter

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134 - SEVERE CASE OF MESH CONTRACTION AFTER VAGINAL PELVIC ORGAN PROLAPSE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

The biomechanical phenomenon of mesh contraction has been documented since 1997 (1) in animal as well as human models. Material shrinkage of macroporous polypropylene mesh seems progressive over time and can cause a variety of symptoms such as palpable painful mesh contraction, dyspareunia or pain during physical activity.

MATERIALS AND METHODS

We present the case study of a 53-year-old patient with severe mesh contraction after vaginal pelvic organ prolapse surgery 17 years prior. Symptomatic pelvic organ prolapse of all three compartments with leading cystocele grade 3 was corrected using an anterior and posterior macroporous polypropylene mesh in 2007. In 2011, the patient presented with bladder voiding issues and urethral syndrome. A cystoscopy was performed which showed a relative stenosis of the bladder neck, which was mechanically dilated. This procedure was repeated 2016 due to recurring urinary tract infections with the same findings. The patient continued to have minor voiding issues and microhaematuria after the procedure. In 2024, she presented in our clinic with progressive pain in the left abdomen and hip, exacerbated by movement. A rheumatological and orthopaedic workup showed no pathologies. The clinical examination showed no erosion but the mesh was palpable and contracted in the anterior wall and the right laterocaudal mesh arm was painful upon palpation with a pronounced contracture. Pelvic MRI imaging showed mesh shrinkage of the anterior mesh with dislocation of the obturator muscle on the right side.

RESULTS

We performed vaginal revision surgery. The cystoscopic findings showed the known urethral stricture approx. 1 cm from the meatus externus. The cystoscopy showed enhanced trabeculation but was otherwise unremarkable and without mesh erosions. We performed an anterior colpotomy and visualised the mesh on the anterior wall. We dissected the entire mesh on the anterior wall using scissors with partial excision of the mesh arms laterally. We also resected the laterocaudal mesh arm on the right after posterior colpotomy. The vaginal wall was sutured continuously and a transurethral catheter and vaginal tamponade were placed for 24 hours. The patient was discharged from the hospital after two days.

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INTERPRETATION OF RESULTS

Postoperative results after one month were encouraging. The patient reported no more voiding problems, urethral pain or microhaematuria, and reduced pain levels overall, although the pain during physical activity did not completely disappear. After treatment of bursitis of the right hip, the patient was free of pain after four months. There was no recurrence of the pelvic organ prolapse with stable compartments and good urine continence.

CONCLUSIONS

Vaginal mesh contraction is a serious possible complication after pelvic organ prolapse surgery. Due to most symptomatic contractions occurring on the junctions between the central mesh and the lateral fixation arms, it is also a likely factor in the heightened number of mesh erosions after vaginal mesh surgery (2). These patients present with a variety of symptoms and the only viable therapy option is surgical mesh excision. These findings also present a future challenge concerning mesh shrinkage and its ramifications regarding laparoscopic colposacropexies using macroporous mesh. Further studies in this area are needed.

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135 - SIU (STRESS URINARY INCONTINENCE)-RISK FACTORS

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INTRODUCTION

Several factors can contribute to urinary incontinence, including aging, use of diuretics, obesity, chronic con stipation, previous hysterectomy, caffeinated and carbonated beverages, severe cough, structural abnormalities of the urinary tract, bladder stones, and short urethra.

MATERIAL AND METHODS

The study is a retrospective cohort study. Material is represented by 100 female patients aged 35 to 70 years. In all women, we have done: urine culture, ultrasound, Marshall's tests, and a survey questionnaire containing questions about the risk factors of urinary incontinence. The relative risk of urinary incontinence was estimated by calculating the odds ratio with a 95% confidence interval using logistic regression.

RESULTS

Data analysis showed an association between urinary incontinence and the patients with an index of body weight over 35 (p=0.0127, with a relative risk of 2.59); vaginal delivery (p=0, 0166, with a relative risk of 2.18); multiparity (p=0.0001, with a relative risk of 4.05); macrosomia (p=0.0186, with a relative risk of 3.00); postmenopause (p=0.0291, with a relative risk of 2.14); cigarette smoking (p=0.0043, with a relative risk of 2.45) and drinking alcohol (p=0.0411, with a relative risk of 2.11).

CONCLUSIONS

Our study we found that obesity, vaginal delivery, multiparity, macrosomia, postmenopausal period, cig arette smoking, and alcohol consumption are potential risk factors for SIU.

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136 - UTERINE VOLUME AS A RISK FACTOR FOR PELVIC FLOOR DYSFUNCTION IN PATIENTS UNDERGOING VAGINAL HYSTERECTOMY

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BACKGROUND

Vaginal hysterectomy (VH) is a preferred approach when feasible for benign uterine conditions, such as uterine prolapse, even in the presence of an enlarged uterus, due to its association with faster recovery, shorter hospital stays, and fewer complications. Common risk factors for prolapse recurrence following VH are older age, parity, advanced stage of prolapse, and enlarged levator hiatus. Uterine size is often considered a factor influencing surgical feasibility and potential complications, but not on long-term outcomes.

The study aimed to identify the relationship between uterus size at VH and long-term pelvic floor outcomes.

MATERIAL AND METHODS

This retrospective cross-sectional study analyses data collected from patients who underwent VH for prolapse between 2010 and 2016 at a single university-affiliated hospital. Pelvic Floor Distress Inventory (PFDI-20) was utilized to compare the subjective results of vaginal hysterectomy. Actual uterine size and weight were documented in the pathology report. A uterine volume of 22.5 cm3 was calculated to define the groups based on the median of the entire sample's uterine volume.

RESULTS

Table 1 summarizes the outcome following vaginal hysterectomy according to the uterine volume. Patients with an enlarged uterus tend to be older. Otherwise, the groups had no differences in demographic and clinical characteristics. The mean follow-up was more than 5 years in both groups. All aspects of the PFDI-20 questionnaire were higher in patients with an enlarged uterus. Prolapse awareness was also higher in patients with an enlarged uterus (18.5% and 5.6%, respectively, p = 0.026).

On multiple linear regression analysis, uterine volume was independently associated with higher scores of PFDI-20 (p=0.045) and POPDI-6 (p=0.006) after controlling for the patient's age, parity, and uterine prolapse stage.

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CONCLUSION

There is an association between the larger uterine volume at the time of vaginal hysterectomy and higher POP recurrence and Pelvic Floor dysfunction rates, suggesting a potential impact of uterine size on pelvic floor disfunction following the surgery.

Table 1. Comparison according to the uterine volume and the outcome following vaginal hysterectomy.

	Uterine volume ≤22.5 cm^3 (n = 68)	Uterine volume >22.5 cm^3 (n = 65)	*P*
Age (years)	71.3 ± 8.6	64.4 ± 9.4	*<0.001*
Parity	4.1 ± 2.0	4.2 ± 2.3	*0.81*
Cesarean section	6/67 (9.0%)	5/63 (7.9%)	*0.84*
Menopause	68/68 (100%)	62/65 (95.4%)	*0.073*
Years in menopause	23.0 ± 9.3	17.4 ± 10.0	*0.001*
HRT	4/61 (6.6%)	7/64 (6/6%)	*0.39*

Previous prolapse surgery	1/65 (1.5%)	2/64 (3.1%)	*0.55*
Prolapse symptoms	67/68 (98.5%)	63/64 (98.4%)	*0.97*
SUI symptoms	29/68 (42.6%)	33/65 (50.8%)	*0.35*
Uterine prolapse degree	2.9 ± 0.6	3.0 ± 0.8	*0.32*
Anterior wall prolapse degree	3.0 ± 0.3	2.8 ± 0.6	*0.039*
Posterior wall prolapse degree	1.4 ± 0.7	1.7 ± 0.8	*0.032*
Urodynamic SUI	37/68 (54.4%)	37/65 (56.9%)	*0.77*
Concomitant surgery:			
Transobturator tape	48/68 (70.6%)	51/65 (78.5%)	*0.30*
Anterior Colporrhaphy	63/67 (94.0%)	61/65 (93.8%)	*0.97*
Posterior Colporrhaphy	26/67 (38.8%	37/65 (56.9%)	*0.037*
BSO	6/67 (9.0%)	17/65 (26.2%)	*0.009*
Uterine weight (gram)	36.9 ± 35.3	101.8 ± 138.0	*<0.001*
Uterine volume (cm^3)	15.7 ± 4.8	58.9 ± 65.4	*<0.001*
Follow-up (months)	51.8 ± 25.2	62.6 ± 28.9	*<0.001*
Awareness of prolapse*	4/68 (5.9%)	12/65 (18.5%)	*0.026*
POPDI-6	8.0 ± 11.2	16.7 ± 20.8	*0.031*
CRADI-8	10.4 ± 14.9	17.2 ± 18.6	*0.023*
UDI-6	16.2 ± 21.4	27.2 ± 26.0	*0.013*
PFDI-20	34.6 ± 39.4	61.0 ± 54.7	*0.002*

HRT - Hormonal replacement therapy

SUI - Stress urinary incontinence

BSO - Bilateral Salpingo-oophorectomy

*Awareness of prolapse - A positive answer to question 3 in the PFDI-20 questionnaire of at least 2 (“somewhat bothering”) was used to define clinically significant prolapse.

POPDI-6 - Pelvic Organ Prolapse Distress Inventory 6

CRADI-8 - Colorectal-Anal Distress Inventory 8

UDI-6 - Urinary Distress Inventory 6

PFDI-20 – Pelvic Floor Distress Inventory 20

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137 - SEXUAL HEALTH IN WOMEN WITH STRESS INCONTINENCE AND PELVIC FLOOR MUSCLE TREATMENT

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INTRODUCTION AND AIM OF THE STUDY

Sexual dysfunctions in women with mild stress incontinence and importance of pelvic floor muscle treatment.

The aim of this study was to investigate the impact of PFMT (pelvic floor muscle treatment) with and without the addition of vaginal device in women with mild stress urinary incontinence.

MATERIALS AND METHODS

The authors used the electronic form Female Sexual Function Index to assess the effect of pelvic floor muscle training on female sexual function. Participants included women with stress urinary incontinence, without overactive bladder symptoms, who completed a 4-month pelvic floor muscle training. All patients completed the Female Sexual Function Index and the International Consultation on Incontinence Questionnaire-Short Form at baseline and at the 4-month follow-up

RESULTS

Forty-four patients completed all of the questionnaires...

Zaznamenať hodnoty FSFI range:

jedno rameno

druhé rameno:

64.7% patients were referred with stress urinary incontinence without sexual disorders, while 35.3% complained of stress urinary incontinence and sexual symptoms. The International Consultation on Incontinence Questionnaire-Short Form score significantly decreased after 4 months of pelvic floor muscle training ($p = .01$). The Female Sexual Function Index score significantly improved after pelvic floor muscle training even in women with sexual disorders (12.5 ± 9.5 vs. 29.7 ± 3.7; $p < .001$).

INTERPRETATION OF RESULTS

This study showed that pelvic floor muscle training itself or with the auxiliary help of vaginal device may improve female sexual function in women with pure stress urinary incontinence.

CONCLUSIONS

Female urinary incontinence and sexuality - PMC (nih.gov)_ Mota, Portugal: Conservative treatment (PFMT) of urinary incontinence improves quality of life and sexuality, regardless the type of incontinence.

Pelvic floor muscle training as treatment for female sexual dysfunction: a systematic review and meta-analysis - American Journal of Obstetrics & Gynecology (ajog.org)

REFERENCES (max. 3)

138 - THE EFFECT OF VIRTUAL REALITY APPLICATIONS ON PAIN AND ANXIETY IN PATIENTS UNDERGOING OUTPATIENT GYNECOLOGIC SURGERY: A SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Virtual reality is an advanced computer-designed technology that enables people to perform actions that are not possible in real life, allows them to easily enter the places they want to be in a virtual environment, and gives the feeling of being real. This technology has started to be used as a non-pharmacological supportive method in gynecology as in many fields.

In this systematic review study, it is aimed to guide researchers who will examine the effects of virtual reality technologies during daily gynecological interventions, which is a very stressful process for women, by conducting a systematic analysis of existing studies.

MATERIALS AND METHODS

The review was conducted by searching Cochrane, PubMed, Medline, ScienceDirect, EBSCOhost, Scopus, Research Square, CINAHL, YÖKTEZ and ULAKBİM databases. The review included 11 randomized controlled trials published between 2014 and 2024.

RESULTS

As a result of the literature review, it was found that the studies investigating the effects of virtual reality applications on pain and anxiety in gynecology were mostly conducted during the hysteroscopy procedure, and in these randomized controlled experimental studies, the effect on gynecological interventions was mostly investigated.

INTERPRETATION OF RESULTS

In addition, it was found that virtual reality applications were mostly applied to evaluate pain, anxiety and patient satisfaction and results with high level of evidence were obtained.

CONCLUSIONS

As a result of the study, it was determined that more randomized controlled studies are needed to reach a general judgment on the effect of virtual reality technologies on gynecological interventions.

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Fouks, Y.; Kern, G.; Cohen, A.; Reicher, L.; Shapira, Z.; Many, A.; Yogev, Y.; Rattan, G. A virtual reality system for pain and anxiety management during outpatient hysteroscopy: A randomized control trial. Eur. J. Pain 2022, 26, 600–609.

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139 - EVOLVING TRENDS IN OBSTETRIC ANAL SPHINCTER INJURIES: A DECADE OF CHANGE IN IRELAND

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CUMH, CUMH, Cork, Ireland (1) - UCC, CUMH, Cork, Ireland (2)

INTRODUCTION AND AIM OF THE STUDY

Obstetric Anal Sphincter Injuries (OASI) represent a significant and potentially debilitating complication in obstetric care. In recent years, two key shifts have occurred in the field of obstetrics: the increasing prevalence of Cesarean sections (CS) and the introduction of specialized perineal clinics within maternity care settings worldwide. This study aims to explore how these shifts have impacted the mode of delivery in subsequent pregnancies following an initial OASI, as well as the rates of recurrent OASI.

MATERIALS AND METHODS

A retrospective database study was conducted at Cork University Maternity Hospital (CUMH). Women with an index delivery complicated by OASI who subsequently delivered at CUMH were included. The study analyzed two time frames: 2007-2012 and 2018-2023, During both periods, a perineal clinic was operational. However, for the 2007-2012 period, only attendance rates were accessible, whereas comprehensive clinical data were available for 2018-2023. Data were extracted from both physical charts and electronic records, and statistical analyses were performed using SPSS Version 28.

RESULTS

In the 2007-2012 cohort, 184 deliveries complicated by OASI were followed by a subsequent delivery, while the 2018-2023 cohort included 176 such cases. Data on index deliveries and the primary OASI event are detailed in Table 1. Perineal data are also provided, with only attendance rates available for 2007-2012, while comprehensive clinical details are included for 2018-2023.
During the 2007-2012 period, 45 women (24.5%) attended the perineal clinic, compared to 82 women (46.6%) in the 2018-2023 period, with 17 women (9.7%) in the latter group reporting fecal symptoms following their index delivery. Of those who attended the clinic during 2018-2023, 42 women (42.7%) were advised to consider a CS for their next pregnancy, yet 112 women (63.6%) in the overall cohort opted for CS during their antenatal clinic review prior to delivery.
Private obstetric care utilization increased from 13.0% in 2008-2017 to 22.7% in 2018-2023 (p=0.01). The rate of Cesarean sections (CS) in subsequent deliveries increased from 42.4% in the 2008-2017 cohort to 60.8% in the 2018-2023 cohort (p=0.04). The rate of vaginal deliveries declined from 57.6% in the 2007-2012 cohort to 39.2% in the 2018-2023 cohort, corresponding to the rise in CS deliveries. The recurrence of OASI decreased from 5.1% in the 2007-2012 cohort to 2.9% in the 2018-2023 cohort (p=0.50).

INTERPRETATION OF RESULTS

The increase in CS rates in the later cohort, particularly beyond what was advised on medical grounds, suggests a more cautious approach to delivery following an OASI, even among women who were asymptomatic after their initial injury. This may reflect heightened concerns about potential complications, leading to more elective CS decisions, potentially driven by patient preference and counseling.

CONCLUSIONS

While the increased CS rate following OASI may have contributed to a reduction in recurrent OASI, the long-term implications of such a high CS rate remain unclear. Further research is needed to assess the outcomes of repeated CS in subsequent deliveries and to determine the best strategies for managing this high-risk population in the long term.

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Table 1: Comparison of Obstetric Anal Sphincter Injuries (OASI) at Index Delivery Between 2007-2012 and 2018-2023

		2007-2012, n=184	2018-2023, n=176	p-value
Maternal age, mean±SD		30.60±4.57	30.20±4.56	0.40
Nulliparity n (%)		38 (20.7%)	23 (13.1%)	0.05
Fetal birth weight, grams, Mean±SD		3740.80±455.01	3698.39±478.63	0.58
Degree of OASI, n (%)	3A	49 (26.6%)	50 (28.4%)	<0.01
	3B	19 (10.3%)	45 (25.6%)	
	3C	5 (2.7%)	14 (8.0%)	
	3rd unspecified	111 (60.3%)	44 (25.0%)	
	4	0 (0.0%)	23 (13.1%)	
Perineal clinic attendance, n (%)		45 (24.5%)	82 (46.6%)	
Fecal symptoms, n (%) *		NA	11 (13.4%)	NA
St. Marks score, median (IQR) *		NA	0 (0-2)	NA
Rest pressure, Median (IQR) *		NA	36 (28-49)	NA
Squeeze pressure, Median (IQR) *		NA	59 (47-79)	NA
EUS defect to internal anal sphincter, n (%) *		NA	11 (13.4%)	NA
EUS defect to external anal sphincter, n (%) *		NA	46 (59.1%)	NA
Patient referred to colorectal specialist, n (%) *		NA	0 (0.0%)	NA
Advice given to CS in next pregnancy, n (%) *		NA	42 (42.7%)	NA

OASI: Obstetric Anal Sphincter Injuries, NA: Not Available, IQR: Interquartile Range, EUS: Endoanal Ultrasound, CS: Cesarean Section
*n=82

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Table 2: Outcomes and Mode of Delivery in Subsequent Pregnancies Following OASI: A Comparative Analysis Between 2008-2017 and 2018-2023

		2007-2012, n=184	2018-2023, n=176	p-value
Presence of fecal symptoms prior to delivery, n (%) *		NA	17 (9.7%)	NA
Planned mode of delivery at antenatal clinic, n (%) *	Vaginal delivery	NA	64 (36.4%)	NA
	CS	NA	112 (63.6%)	

Private obstetric care, n (%)		24 (13.0%)	40 (22.7%)	0.01
Maternal BMI, Mean±SD			26.65±4.71	NA
Fetal birth weight, grams, Mean±SD		3655.14±451.3	3583.88±425.1	0.12
Actual mode of delivery, n (%)	Vaginal delivery	98 (57.6%)	69 (39.2%)	0.04
	CS	78 (42.4%)	107 (60.8%)	
Repeated OASI		5/98 (5.1%)	2/69 (2.9%)	0.50

OASI: Obstetric Anal Sphincter Injuries, NA: Not Available, BMI: Body Mass Index, CS: Cesarean Section

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140 - LONG-TERM SAFETY AND EFFICACY OF ENPLACE® FOR APICAL SUSPENSION IN PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Apical prolapse presents a significant surgical challenge due to high recurrence rates. The EnPlace® device offers a minimally invasive, mesh-free alternative for sacrospinous ligament fixation (SSLF). This study aims to evaluate the long-term safety and durability of the EnPlace® SSLF.

MATERIALS AND METHODS

A retrospective cohort study was conducted at Assuta Medical Center from October 2020 to October 2021. Ninety-four patients with stage III–IV apical POP who underwent SSLF using the EnPlace® device were included. Data were collected from a real-time updated database. Follow-up assessments occurred at 1 day, 1 month, and 6 months postoperatively, with patient satisfaction evaluated at 3-4 years. Data were analyzed using SPSS version 28

RESULTS

Ninety-one patients (mean age 63.9 ± 11.85 years) were included. Preoperatively, 80 (85.1%) had uterine prolapse, and 11 (11.7%) had vaginal vault prolapse. Mean point C POP-Q measurements were 2.11±3.04 and 1.55±3.01, respectively. All patients underwent concomitant colporrhaphies, with 19 (20.9%) also receiving a mid-urethral sling. The mean surgery duration was 23.46 ± 5.09 minutes, and mean blood loss was 23.7 ± 6.06 mL. No intraoperative or early postoperative complications occurred. At 6 months, POP-Q measurements showed point C at -4.84 ± 1.05 cm, point Ba at -2.25 ± 0.69 cm, and point Bp at -2.63 ± 0.69 cm. Two patients (2.5%) with uterine prolapse experienced surgical failure within 6 months but were successfully reoperated with a second SSLF using EnPlace®. No recurrence was observed in vault prolapse patients. Five patients (5.2%) had recurrent stage II cystocele, managed with pessaries. Mean patient satisfaction at 3-4 years was 92.8%.

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INTERPRETATION OF RESULTS

The EnPlace® device effectively repairs apical POP with low recurrence rates and high patient satisfaction. Significant improvements in POP-Q measurements were observed, and the procedure had no significant complications. The few cases of surgical failure were successfully reoperated, and recurrences were managed conservatively. These results highlight the device's safety, efficacy, and potential as a reliable alternative to traditional methods.

CONCLUSIONS

The EnPlace® device demonstrates favorable safety and efficacy profiles for apical POP repair, with low recurrence rates and high patient satisfaction. This technique offers a promising alternative to traditional methods, particularly for older and more fragile patients.

Outcomes and Long-term Patient Satisfaction

Characteristic	Total no. of patients, N=91	Uterine prolapse, N=80	Vault prolapse, N=11	P value
Pre-operative				
Point C, cm[a], (Mean±SD)	+2.04±3.02	2.11±3.04	1.55±3.01	0.56
Point Ba, cm[a], (Mean±SD)	+2.79±1.80	2.79±1.74	2.82±2.23	0.96
Point Bp, cm[a], (Mean±SD)	+0.95±1.47	0.86±1.41	1.55±1.75	0.15
1 month follow up				
Point C, cm[a], (Mean±SD)	-5.41±0.63	-5.42±0.65	-5.27±0.46	0.45
Point Ba, cm[a], (Mean±SD)	-2.65±0.50	-2.64±0.50	-2.73±0.46	0.58
Point Bp, cm[a], (Mean±SD)	-2.82±0.38	-2.83±0.38	-2.82±0.40	0.94
Satisfaction (0-100%), (Mean±SD)	95.21±6.75	95.06±6.95	96.36±5.04	0.55
6 months follow up				
Point C, cm[a], (Mean±SD)	-4.84±1.05	-4.81±1.11	-5.00±0.00	0.58
Point Ba, cm[a], (Mean±SD)	-2.25±0.69	-2.28±0.73	-2.09±0.30	0.41
Point Bp, cm[a], (Mean±SD)	-2.63±0.69	-2.61±0.72	-2.73±0.46	0.61
Satisfaction (0-100%), (Mean±SD)	92.80±9.28	92.42±9.64	95.45±5.68	0.31
Failure (N%)	2 (2.2%)	2 (2.5%)	0 (0.0%)	0.59
Recurrence N (%)	1 (1.1%)	1 (1.3%)	0 (0.0%)	0.71
3-4 years telephone follow up, N=75				
Satisfaction (0-100%), (Mean±SD)	91.93±17.06	91.21±17.84	97.22±8.33	0.32

SD – Standard deviation, IOR – interquartile range, SUI – stress urinary incontinence
[a] Taken from POP-Quantification measurement

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141 - DOES ADMINISTERING TRANSEXAMIC ACID BEFORE VAGINAL HYSTERECTOMY REDUCE THE AMOUNT OF BLEEDING? A RANDOMISED CONTROL STUDY

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Department of Obstetrics and Gynecology, Edith Wolfson Medical Center, Faculty of Medicine, Tel Aviv University, Holon, Israel (1)

INTRODUCTION

Tranexamic acid (TXA) is an antifibrinolytic agent commonly used to treat various types of hemorrhage. It has also been proven effective as a prophylaxis before surgeries. Although TXA was found effective in reducing blood loss in abdominal and laparoscopic hysterectomies, its effectiveness was not demonstrated in vaginal hysterectomies.
We aimed to investigate the effect of prophylactic TXA on the amount of blood loss in elective vaginal hysterectomy (VH) indicated for uterine prolapse.

MATERIAL AND METHODS

This randomized control, double-blind study was conducted in a tertiary medical center. Patients who underwent elective VH with or without concurrent colporrhaphy and/or anti-incontinence procedures were randomized into two groups. The study group received 1 gram of TXA and the control group Sodium-Chloride 0.9% half an hour before VH. The surgeons were blinded to the type of medications during the surgery. The primary outcome was an objective assessment of blood loss during the surgery. It was calculated by subtracting the weight of all used towels from the preoperative weight after the operation; 1g of fluid was converted to 1mL of blood. The bleeding assessment was performed in two stages. Immediately after the end of the vaginal hysterectomy and fixation of the vaginal vault using the McCall, and following completion of colporrhaphy and TOT, when performed.
Secondary outcomes included the difference in preoperative and postoperative Hemoglobin levels and intra-abdominal hematoma after surgery (according to ultrasound examination). We also studied the blood transfusion rates, bleeding-related complications, and trombone-embolic events.

RESULTS

Both groups had similar backgrounds and operative characteristics The primary outcome of intraoperative total blood loss was lower in the study group compared to the control group (231±132 vs 396±221 ml, p< 0.001). Intraoperative blood loss was also reduced when we analyzed hysterectomy and concomitant procedures separately (VH: 138±82 vs. 230±131 ml, p< 0.001, concomitant procedures: 95±65 vs. 166±132 ml, p p< 0.01). (Table 1).
The incidence of blood loss 300 mL was also significantly reduced (24% vs 59%, respectfully, P<0.001).
The total surgery length was also significantly reduced (127±18.8 vs 141.1±18.9 min, respectfully, P=0.001).
On multivariant logistic regression analysis, a prophylactic TXA administration was associated with a lower risk of intraoperative bleeding (OR 0.331, 95% CI 0.118 -0.933) following adjustment for the length of the surgery.
No thromboembolic events or death incidents were observed in any of the groups.

CONCLUSION

Treatment with TXA reduces the overall total blood loss in vaginal surgeries, the incidence of substantial blood loss in vaginal hysterectomy, and reduces surgery length. Therefore, we suggest considering the use of TXA as a prophylactic treatment before vaginal hysterectomy.

Table 1: Primary and secondary outcomes

	Study group (n=42)	**Control group (n=42)**	**P value**
Blood loss in hysterectomy (ml)	138±82	230±131	<0.001
Blood loss in concomitant procedures (ml)	95±65	166±132	0.002
Total blood loss (ml)	231±132	396±221	<0.001
Blood loss > 300 ml	10 (24)	25(59)	<0.001
Postoperative hemoglobin (g/dL)	11.8±1.3	11±1.4	0.005
Drop in hemoglobin level (g/dL)	1.3±0.7	1.6±1.0	0.15
Postoperative platelets (10^9/L)	241±79	211±52	0.04
Drop in platelet level (10^9/L)	12±49	29±29	0.06
Postoperative hematocrit (%)	35.6±3.5	33±4	0.0019
Drop in hematocrit level (%)	3.8±2.4	4.8±3.2	0.1
Intra-abdominal hematoma size (cm)	3.7±1.6	3.8±2.7	0.83
Blood transfusion	0 (0)	1 (2.4)	1.0
Use of open-label TXA	0 (0)	2 (4.7)	0.1
Complication of hemorrhage	1(2.4)	1 (2.4)	1.0
Reoperation owing to hemorrhage	0 (0)	0 (0)	1.0
Readmission owing to hemorrhage	0 (0)	0 (0)	1.0
Thromboembolic events	0 (0)	0 (0)	1.0

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142 - URINARY INCONTINENCE (UI) IS REALLY INCONVENIENCE

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Keywords: Frequency, Female, Urinary incontinence

AIM

Urinary incontinence (UI) is a health problem with important psychological, hygienic, and socio-economic consequences. The aim of this study is to determine the frequency, severity, and risk factors of urinary incontinence in females in developing countries.

METHODS

In this retrospective cohort study, we evaluated the frequency and risk factors of UI in 88 women over the age of 22 who were referred to the Physical Medicine and Rehabilitation outpatient clinic between January 2020 and December 2023. The data, socio-demographic characteristics of the patients and the results of the Urogenital Distress Inventory-(UDI-6) were analyzed.

RESULTS

The mean age of 88 patients included in the study was 51.7 (18.4) years, with the mean duration of symptoms of 9.8 (6.42) years. Stress UI, urge UI and mixed UI were present in (45.2%), (20.9%), and (33.9%) patients, respectively. UI was detected more frequently in patients over 46 years of age (33.6%) than in patients between the ages of 22 and 44 (69.4%) years, in those who gave birth at least once (80.7%) compared to those who had never given birth (19.3%), and in patients with Body Mass Index (BMI) values over 27 kg/m2 than in patients with BMIs between 19.5-26.0 kg/m2 (72.5% vs. 22.5%, respectively).

CONCLUSION

UI is an important health problem which negatively affects the quality of life of many women. Various socio-demographic and medical factors affect the frequency of urinary incontinence. Therefore, especially the elderly patient group should be informed of the treatability of this condition and be directed to a physician.

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143 - LAPAROSCOPIC MANAGEMENT OF INTRA-ABDOMINAL BLEEDING FOLLOWING VAGINAL HYSTERECTOMY AND BILATERAL SALPINGO-OOPHORECTOMY. VIDEO PRESENTATION

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We present a patient, a 63-year-old female who underwent uterine prolapse stage and rectocele stage, a vaginal hysterectomy (VH), bilateral salpingo-oophorectomy (BSO), anterior and posterior colporrhaphy (APC), and a Trans-obturator Tape (TOT) operation. The course of the surgery was impeccable. During the surgery, the peritoneum was closed vaginally, with the ends of the stumps secured and facing outside the abdominal cavity. On day one postoperatively, she presented with severe abdominal pain, and imaging demonstrating intra-abdominal hematoma and bleeding. Since her hemoglobin levels dropped by 1 gram/Dl despite receiving two units of packed red blood cells, an explorative laparoscopy was performed.

Intervention

- During the laparoscopy, there was a hematoma at the vaginal cuff of seven to eight cm and Intra-abdominal bleeding of 500 cc.
- The opening and drainage of the hematoma did not reveal the origin of the bleeding.
- ~~We start by opening~~T ~~t~~he retroperitoneum was opened on both sides and ~~identifyin~~g the ureters were identified with regards to the anatomical changes following the original surgery.
- The infundibulopelvic ligaments were then cauterized on both sides, and the uterine arteries were closed by clips.
- During the surgery, the patient got two additional blood-packed units.
- She was stable, fully recovered, and discharged a few days later after the surgery.

This presentation highlights the importance of prompt recognition and intervention in postoperative complications, particularly intra-abdominal bleeding, following pelvic surgery. The laparoscopic approach was targeted for minimally invasive intervention, addressing intra-abdominal bleeding. Identification and securing of the uterine arteries by clips played a crucial role in controlling the bleeding. This step is often challenging due to the anatomical changes following the primary surgery.

In conclusion, the current ~~case~~ patient emphasizes the significance of maintaining a high level of clinical suspicion for postoperative complications, leading to prompt diagnosis and intervention. The laparoscopic technique demonstrated its effectiveness in managing intra-abdominal bleeding.

144 - VAGINAL VAULT PROLAPSE TREATMENT

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INTRODUCTION AND AIM OF THE STUDY

Vaginal vault prolapse (VVP) can be surgically treated vaginally (trough sacrospinous ligament suspension (SSLs) or colpocleisis) or laparoscopically (trough uterosacral ligament suspension (USLs) or colposacropexy (CS)). The objective of the study is to analyze the efficiency of the previously mentioned techniques, as well as to propose a protocol for choosing the surgical intervention in VVP cases.

MATERIALS AND METHODS

We conducted a retrospective study between January 2021 and July 2024, carried out in 2 hospitals in Bucharest, Romania. The study included 534 patients with pelvic organ prolapse, of which 52 cases had VVP. Patients with VVP were treated surgically by SSLs, colpocleisis, USLs and CS. The patients were followed for a period between 4 and 46 months, and complications and relapses were evaluated. Additionally, we analyzed the literature in order to design a guideline for the surgical treatment of VVP.

RESULTS

The analyzed group of patients included 13 cases of stage 2 VVP, 29 cases of stage 3 VVP and 10 cases of stage 4 VVP. The surgical approach was vaginal in 47 cases and laparoscopic in 5 cases. The main surgical intervention was SSLs in 43 cases, CS in 3 cases, colpocleisis in 4 cases and USLs in 2 cases. Additional surgeries were performed, according to the secondary diagnoses: mid-urethral sling for stress urinary incontinence, anterior colporraphy, anterior trans-obturator mesh with 2 or 4 arms and posterior colporraphy.

INTERPRETATION OF RESULTS

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All cases had a favorable evolution, without recurrent prolapse. As other complications, 3 patients developed stress urinary incontinence (2 after SSLs and 1 after CS). The choice of surgical intervention must consider: surgical history, comorbidities, age, prolapse stage, prolapse recurrence and the desire for future sexual contact.

CONCLUSIONS

All the analyzed techniques proved to be effective in the treatment of VVP. The type of surgical intervention must be chosen after a personalized evaluation of each individual case based on a reproducible algorithm.

145 - A NEW INSIGHT INTO VISUALISATION AND GOOD ACCESS IN VAGINAL SURGERY

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INTRODUCTION

To have a good access in vaginal surgery is often a challenge.

Adequate visualisation becomes difficult for the surgical assistant, which frequently leads to poor stability and unstable position with the handheld retractors. These also affects the training and learning opportunity for the trainees as only the leading surgeon has the full visualisation of the procedure.

In consideration of these points, our unit has developed a method, with usage of tapes for the retraction during the vaginal surgery, without the involvement of any fancy retractors but only with help of routine surgical instruments and clips used during the surgery.

The method has been proven very effective and helpful with minimal assistance required from surgical assistant which provides them the opportunity to learn. It is also a cost effective for the unit as there is no use of any additional instruments or retractors.

METHOD

The picture provides a brief idea about the proper presentation of this method used for the retraction during a vaginal surgery.

CONCLUSION

This method of retraction is an extremely helpful method to gain adequate visualisation and workspace with minimal assistance.

It is cost effective method, saving lot of funds of the unit spent on retractors.

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146 - PELVIC ORGAN PROLAPSE REPAIR : MESH VERSUS NATIVE TISSUE – INSIGHTS FORM OUR CLINICAL EXPERIENCE

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INTRODUCTION

The incidence of prolapses varies from 1.5 to 1.8/1000 of women and the average age of appearance of these conditions is 60-69 years. The prevalence of prolapses when we refer to symptomatic prolapse is 3-6% and increases up to 50% when we refer to a prolapse diagnosed during a routine examination.

Symptomatic prolapses, therefore, have an increased prevalence and patients have a 13-20% risk of needing a surgical intervention to cure the prolapse during their lifetime. The recurrence rate of prolapses varies from 13 to 31%, with studies showing a rate of up to 58% in the first year and 25% in 10 years. Over the last several years, there has been substantial discussion over the effectiveness of native tissue restoration vs mesh-augmented repairs.

MATERIALS AND METHODS

The purpose of the current research was to contrast transvaginal mesh augmentation and native tissue restoration (NTR) for the treatment of pelvic organ prolapse in our routine clinical practise. We evaluated 723 patients who were treated in our clinic for different types of pelvic prolapse or stress urinary incontinence and who were operated both vaginally and minimally invasive endoscopically using techniques that required the use of a transvaginal or a nattive tissue option.

RESULTS

Out of the 723 patients, in 339 cases a transvaginal mesh was used (for the treatment of the anterior or posterior or medial defects) and 115 were treated with a procedure that used native tissues. Regarding the rate of anatomical failure, in the case of the mesh we have a rate of 2.06% and in the case of native tissues of 7.28%. Recurrence rate after surgical intervention was 8.55% in the case of the mesh versus 13.04% in the case of native tissues, but regarding the patient's satisfaction as a subjective factor, the difference was not major – 86.4% in the case of the mesh versus 89.56% in the case of own tissues. De novo symptoms were observed in the mesh usage (1.76%). There is also the laparoscopic or robotic uterosacral ligament culdoplasty and suspension associated or not with pubocervical fascia plicaturation with reinforcing of the pericervical ring that is a safe and effective native tissue option for grade II or III of defects and on the other hand sacrocolpopexy remains the "gold standard" repair for prolapses that are grade IV for those who desire to maintain their sexual function, and minimally-invasive approaches offer similar efficacy with fewer risks than open techniques.

CONCLUSION

At 36 months, native tissue repair did not outperform transvaginal mesh restoration in treating pelvic organ prolapse. Subjective success, a crucial factor from the standpoint of the patient experience, was high and did not statistically vary across groups. Regarding major procedure-related adverse events, transvaginal mesh repair was just as safe as native tissue restoration.

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147 - SATISFACTION OF PATIENTS WITH ANTERIOR VAGINAL REPAIR UNDER LOCAL ANESTHESIA

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INTRODUCTION

Increasing age of patients, co-morbidities, one day surgery preference and also the preference of patients to undergo minimally demanding form of anesthesia together with a rapid reconvalescence are the main issues for patients undergoing any surgery. All of these aspects place a performance of a surgery under local anesthesia into the spotligh of general interest in certain urogynaecologic procedures. We want to describe subjective outcomes of patients undergoing anterior vaginal repair under solely local anesthesia.

METHODS

We analysed a set of patients who underwent a surgery under local anesthesia at our department between 2017 and 2022. The procedure was anterior vaginal repair with a modification according Barnett-Macku. The patients were reached by telephone regarding standardized questions about subjective evaluation during surgery and after the surgery.

RESULTS

Out of 97 patients we were able to analyze 90 questionaires (6 patients died, one patient refused to answer). Average age was 69.1 (49-86).
On a visual analogue scale 1-10 (1 for no pain, 10 for maximal pain sensation) on the question about pain during the surgery the value was 1,23 and after the surgery 1,73. Satistaction with the surgery was (yes or mainly yes) in 94,55%, dissatisfaction (not really, no) in 5,5%. 96,6% of patients would undergo the surgery under local anesthesia again. 89,5% of patients would recommend such procedure to their friends (7,7% did not know).

CONCLUSION

Local anesthesia was clearly appreciated by the patiens. There is a comfort for the surgeon and it is the least demanding anesthesia for the patients. This is benefitial especially for patients of higher age.

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148 - A SURVEY BASED ANALYSIS OF THE BENEFITS OF THE MULTIDISCIPLINARY APPROACH TO CHRONIC PELVIC PAIN

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INTRODUCTION AND AIM OF THE STUDY

What is more beneficial and effective: a single doctor as the pelvic pain manager or having a whole multidisciplinary team? What financial burden does the patient face, and how much does interdisciplinary cooperation even cost? On what algorithm should such a team be working and how do you measure success? These questions need to be answered to bring us to conclusion on the modern management of chronic pelvic pain (CPP). Here we introduce not just the operative algorithm of our PPTF but also the succes rate of our cooperative effort.

MATERIALS AND METHODS

Online questionnaires were sent out to 150 patients (treated by the Pelvic Pain Task Force (PPTF) of Semmelweis University of Budapest between 2020 and 2024) to understand, what challenges does the CPP population face, what experience they collected battling their condition and – mostly – to compare the efficiency of single health care providers to a PPTF.

RESULTS

Our CPP patients (m/w 55%-45%, avg. age 49 (24-72) visited 17 health care providers (HCP) in average (4-80) before they turned to our PPTF. Mostly they'd been seen by urologists and gynaecologists, and only a fraction (<5%) met with psychologists or anaesthesiologist. They spent 2255 euros on doctors and meds in average finding no or little remedy and even less empathy. 75% felt they did not have enough time with the HCPs, 85% did not find out what the root of his/her symptoms were. About 2/3rd got no useful treatment and in even if they did, in 68% they did not agree with the one they got. According to the answers our patients gave our PPTF dedicated more time to discuss the problem (75% satisfied), did better in finding the cause (54%) but still were not able to ease the pain of every individual (only 48% satisfied). According to the results of the survey, the existence of our team is "very useful" or "useful" (90%) and almost all participants were happy they been handled by a multidisciplinary team.

INTERPRETATION OF RESULTS

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Multidisciplinary teams do better! Also, since our team is on a university payroll, our service cost exactly zero to our patients (all of them having national insurance). Or working algorithm (where one member of our team refers the patient to the rest of the PPTF and the further diagnostic and treatment decisions are made together) seem to be highly beneficial to our patients. Nevertheless, (based on the answers) we still have to do better with logistics, response time, communication and cure rate.

CONCLUSIONS

Complex, often multiorgan problems like CPP can rarely be managed by one single HCP and discipline.1,2 Many of these patients have chronic overlapping pain conditions, their status can be heavily influenced by biopsychosocial factors and require multimodal approach for optimal management.3

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149 - LONG-TERM EFFICACY OF RETROPUBIC SLING IN PATIENTS WITH TOT FAILURE COMPARED TO STANDARD TRANS-OBTURATOR SLING

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BACKGROUND

Stress urinary incontinence (SUI) is a common condition that affects up to 40% of women. The mainstay of treatment for women with SUI who failed a conservative approach is a mid-urethral sling surgery (MUS). Two common types of MUS are used: a retropubic sling (TVT) and a trans-obturator sling (TOT). According to available data, TVT is slightly more effective in the long term. MUS failure is defined as persistent SUI after surgery or a temporary improvement in incontinence followed by recurrence. There are no clear guidelines for second-line management, and many reserve the TVT for recurrences. This study aimed to compare the long-term efficacy of TVT in patients with TOT failure.

MATERIALS AND METHODS

We performed a retrospective cross-sectional study to compare efficacy and impact on voiding disturbances in patients who underwent primary TOT procedure without previous MUS surgery, compared with patients who underwent TVT after failed TOT. In the TVT group, the surgeries were performed at 59.5 ± 60.8 months (range 4-216 months) following the primary TOT surgery. Urinary Distress Inventory 6 (UDI-6) (questions 15–20 in the PFDI-20) was used for urinary symptoms assessment.

RESULTS

Fifty-nine patients were enrolled in the study. Forty were in the primary TOT group, and nineteen were in the repeated TVT group. Basic demographic characteristics were similar in both groups. Patients in the TVT group had a higher rate of previous prolapse surgery and underwent more concurrent prolapse surgery during the MUS procedure. There was no significant difference between the UDI-6 score (22.3±24.9 vs. 32.0±28.8, p=0.26), recurrent SUI symptoms (20% vs. 42.1%, p=0.074) urge incontinence symptoms (22.5% vs. 47.4%, p=0.053) and voiding dysfunction symptoms (25.0% vs. 26.3%, p =0.91) in both groups (Table 1). No intra- and postoperative complications were encountered in either group.

CONCLUSION

Although urinary symptoms were higher in secondary TVT patients, they were not expressed as statistically significant. Performing TVT for failed TOT may be a reasonable approach for the treatment of recurrent SUI. Patient selection is crucial for better long-term outcomes and improvement in quality of life.

Table 1. Comparison between patients treated by primary TOT and Repeated TVT.

	Primary TOT (n = 40)	Repeated TVT (n = 19)	*P*
Age (years)	59.1 ± 13.4	56.4 ± 11.7	*0.44*
Parity	2.8 ± 1.4	2.9 ± 1.6	*0.95*
Hypertension	12/40 (30.0%)	1/19 (5.3%)	*0.03*
Diabetes Mellitus	5/40 (12.5%)	2/19 (10.5%)	*0.83*
Pulmonary disease	2/40 (5.0%)	0/19 (0.0%)	*0.32*

Menopause	26/39 (66.7%)	13/19 (68.4%)	*0.89*
Previous prolapse surgery	10/39 (25.6%)	17/19 (89.5%)	*<0.001*
Concomitant surgery:			
Anterior Colporrhaphy	18/38 (47.4%)	2/18 (11.1%)	*0.008*
Posterior Colporrhaphy	34/38 (89.5%)	10/18 (55.6%)	*0.011*
Follow-up (months)	28.0 ± 22.0	25.1 ± 19.6	*0.71*
UDI-6	22.3 ± 24.9	32.0 ± 28.8	*0.26*
Symptoms of UUI[a]	9/40 (22.5%)	9/19 (47.4%)	*0.053*
Symptoms of SUI[b]	8/40 (20.0%)	8/19 (42.1%)	*0.074*
Symptoms of voiding dysfunction[c]	10/40 (25.0%)	5/19 (26.3%)	*0.91*

TOT – Trans obturator tape.

TVT – Tension-free vaginal tape.

UDI-6 – Urinary Distress Inventory 6 (questions 15–20 in PFDI-20).

UUI – Urge urinary incontinence.

SUI – Stress urinary incontinence.

[a]A positive answer to question 16 in the Pelvic Floor Distress Inventory short form (PFDI-20) questionnaire of at least 2 (“somewhat bothering”) was used to define clinically significant UUI.

[b]A positive answer to question 17 in the Pelvic Floor Distress Inventory short form (PFDI-20) questionnaire of at least 2 (“somewhat bothering”) was used to define clinically significant SUI.

[c]A positive answer to question 19 in the Pelvic Floor Distress Inventory short form (PFDI-20) questionnaire of at least 2 (“somewhat bothering”) was used to define clinically significant voiding dysfunction.

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150 - INNOVATIVE MINIMALLY INVASIVE APPROACHES IN POP SURGERY: OUR CLINICAL EXCELLENCE IN ACTION

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INTRODUCTION

The frequency of symptomatic pelvic organ prolapse is rather high, and women are at a 13–20% lifetime chance of requiring surgery to correct vaginal support abnormalities. Although pelvic organ prolapse (POP) most commonly occurs in the anterior vaginal compartment, defects at the insertions of cardinal-uterosacral ligament complexes, pubocervical fascia, and rectovaginal fascia to the pericervical ring are usually linked to the loss of apical support. For defects greater than grad III (grade III and IV), laparoscopic or robotic assisted hystero/sacrocolpopexy is the primary minimally invasive pelvic surgery procedure. For defects less than grad III, the native tissue alternative of uterosacral ligament culdoplasty and suspension or plicaturation of pubocervical fascia are used.

MATERIALS AND METHODS

This research aims to illustrate the benefits and procedures of minimally invasive pelvic recontructive surgery by presenting many examples of pelvic organ prolapses. Minimally invasive surgery was used in our clinic to treat 58 POP patients.

RESULTS

Fifty-three patients underwent laparoscopic or robotic surgical treatment for pelvic organ prolapse (POP) stages II and III. The procedure focused on reconstructing the pelvic support structures by reattaching the uterosacral ligaments to their original positions. In addition to uterosacral ligament plicaturation, pubocervical fascia plicaturation, and sacrocolpopexy were performed as needed. Sacropexy alone was utilized in five cases.Complementary transvaginal posterior repair for rectocele was necessary in nine instances, while posterior colporrhaphy and perineorrhaphy were required in eleven patients. Although hysterectomy with bilateral salpingo-oophorectomy was performed in sixteen cases, it was unrelated to the prolapse treatment. Current evidence does not support the routine use of hysterectomy for POP, nor does it demonstrate its long-term efficacy in preventing prolapse recurrence.

CONCLUSION

Sacrocolpopexy is widely considered the optimal surgical treatment for severe pelvic organ prolapse (stage IV) in patients desiring to preserve sexual function. Minimally invasive techniques for this procedure have demonstrated comparable effectiveness to traditional open surgery while carrying lower risks. For moderate pelvic organ prolapse (stages II and III), laparoscopic or robotic surgical reinforcement of the pelvic support structures, including the uterosacral ligaments and pubocervical fascia, is a safe and effective approach. This procedure aims to restore normal pelvic anatomy and function without the use of synthetic implants.

151 - SURGICAL VS. NON-SURGICAL TREATMENTS FOR STRESS INCONTINENCE

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OBJECTIVE

Stress incontinence is a highly prevalent condition estimated to affect 17-45% of adult women in industrialized countries and has a significant impact on women's quality of life. It is a prevalent condition in women marked by the involuntary leakage of urine during activities that increase intra-abdominal pressure, such as coughing, sneezing, or exercising. This study aims to evaluate the effect of surgical and conservative treatment of stress incontinence. Also it has been evaluate relationship between risk factors, including age, number of childbirths, obesity, and menopausal status, and the severity of stress incontinence in women in Macedonia.

METHODOLOGY

Diagnosis of stress incontinence was established using a combination of patient history, physical examination, and specialized tests such as urodynamic studies. The study involved an assessment of risk factors, including age, number of childbirths, BMI, and hormonal status. Treatment options explored included either non-surgical methods—such as pelvic floor muscle training (Kegel exercises), lifestyle modifications, bladder training, decreasing of weight and pessaries or surgical interventions Burch colposuspension. The treatment effect was evaluate 12 months after the surgical or non surgical treatment.

RESULTS

Globally, 20-30% of women with stress incontinence opt for surgical treatment, while 70-80% manage their condition with non-surgical methods. In Macedonia, during the years 2020-2022, there were 961 diagnosed cases of stress incontinence. Of these, 173 women (18%) underwent surgical treatment - Burch colposuspension, and 788 women (82%) chose non-surgical options. Among these, 778 women (81%) were older than 55 years, and 701 women (73 %) had given birth to 2 or more children. The efficiency of non-surgical treatments in improving symptoms 12 months after the initiation of treatment was found at 599 women 76%, while the success rate of surgical treatments one year after the surgery was detected at at 157 women (91%).

CONCLUSION

Both surgical and non-surgical treatments for stress incontinence are utilized in Macedonia, reflecting global practices. The choice of treatment is influenced by the severity of the condition, the presence of risk factors, and patient preference. A significant proportion of women benefit from non-surgical management before considering surgery, but it has been shown that surgical treatment is more effective for stress incontinence.

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