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ABSTRACT BOOK

1 - EFFICACY OF DIODE VAGINAL LASER IN THE TREATMENT OF GENITOURINARY SYNDROME OF MENOPAUSE

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of menopause (GSM) and vulvovaginal atrophy (VVA) are the most frequent menopause-related clinical entities. As oestrogen levels decline (or are deprived as occurs in patients with hormonally or surgically treated malignancies), the vaginal wall becomes thinner, with a reduction in blood vessels and elasticity, changes in quality and quantity of secretions, as well as loss of collagen fibres. These changes cause dryness, dyspareunia, sexual dysfunction, dysuria, nocturia, urinary incontinence, recurrent urinary infections, and a general deterioration of quality of life. Energy-based treatment modalities may provide an alternative solution for GSM/VVA in women with contraindications of refusal of local oestrogen therapy. Among energy based devices, ablative lasers have demonstrated to have great efficacy. However, adverse effects like scars, infections, pigmentary alterations, erythema or inflammation have been described. Non-ablative laser devices may reduce adverse effects and improve efficacy, since these devices generate a a significantly lower thermal penetration depth than with ablative devices. This concept is related to safer and more precise laser application in the vicinity of sensitive anatomical structures, allowing simultaneous thermal protection of the surrounding tissues.

With our study, we aimed to evaluate outpatient non-ablative laser treatment in this typology of women. Specifically, we evaluated the efficacy of laser therapy in sexually active women with moderate to severe GSM symptoms, after 3 sessions of diode laser, in terms of objective and subjective cure rates.

MATERIALS AND METHODS

This was a prospective study. At baseline (T0), women were evaluated by using the Vaginal Health Index score (VHI) which consists of 5 measures: elasticity, fluid volume, pH, epithelial integrity, and moisture. Moreover, the intensity of VVA symptoms (vaginal burning, vaginal itching, vaginal dryness, dyspareunia, and dysuria) was measured using a 10 cm visual analog scale (VAS). Sexual function was evaluated with the Female Sexual Function Index (FSFI-19) questionnaire. The treatment was performed using Leonardo Dual diode laser (Biolitec Italia Srl, Milano. Italy). Laser treatment consisted of three sessions, one per month. One month after the third session (T1), the vaginal health index (VHI), the intensity of VVA symptoms (measured by the VAS scale) and the sexual function measured with the FSFI-19 were re-evaluated. In addition, the Patient Global Impression of Improvement (PGI-I) questionnaire was collected.

RESULTS

In total 26 patients completed the full treatment of 3 sessions of diode vaginal laser in the period of interest. All patients were either in menopause or under treatment with gonadotropin releasing hormone (GnRH). Patients' mean age was 57.6 ± 9.7 years, and parity 1.3 ± 1.1 births. None of the patients reported adverse effects after laser treatment. In total 19 (73.1%) patients referred improvements of their symptoms according to PGI-I scores (Figure 1). FSFI-19, VAS scale, and VHI T0-T1 comparisons are reported in Table 1. All domains of FSFI-19 questionnaire (desire, lubrication, arousal, orgasm, pain, and satisfaction) as well as total score significantly improved after diode laser treatment. Similarly, VAS scale, and VHI resulted significantly better than baseline.

INTERPRETATION OF RESULTS

To the best of our knowledge this is the first study evaluating the efficacy of diode vaginal laser in the treatment of GSM. We found that diode vaginal laser was efficacy in improving sexual function and reducing VVA-related symptoms in women with GSM. Diode vaginal laser represents a valid and interesting alternative to ablative devices, such as Er: YAG and CO2 pieces of equipment.

CONCLUSIONS

Diode vaginal laser is safe and effective in reducing GSM symptoms and ameliorating sexual function.

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Figure 1
PGI-I scores: 1, very much improved; 2, much improved; 3, minimally improved; 4, no change; 5, minimally worse; 6, much worse; or 7, very much worse

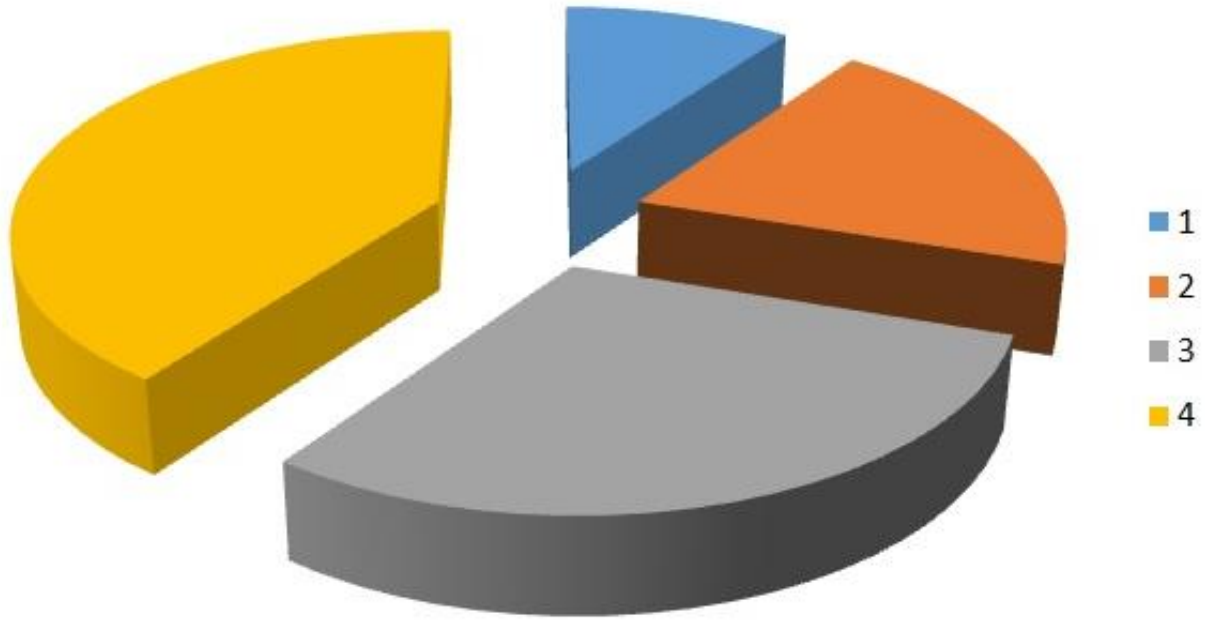

Table 1

Comparison before (T0) and after (T1) vaginal laser. FSFI-19: Female Sexual Function Index; VHI: Vaginal Health Index; PGI-I: Patients Global Impression of Improvement; n/A: not applicable.

	T0	T1	p value
Total FSFI-19 Score	11.0 ± 8.5	15.7 ± 9.5	**0.002**
- Desire Domain	3.8 ± 1.6	4.7 ± 2.0	**0.009**
- Arousal Domain	6.0 ± 5.7	8.9 ± 5.7	**0.007**
- Lubrication Domain	5.8 ± 5.8	8.4 ± 6.5	**0.010**
- Orgasm Domain	4.2 ± 4.7	6.2 ± 5.3	**0.012**
- Satisfaction Domain	6.0 ± 4.4	7.4 ± 4.5	**0.034**
- Pain Domain	3.5 ± 4.2	5.6 ± 5.5	**0.017**
VHI Score	12.2 ± 2.8	15.4 ± 3.6	**<0.001**
Symptoms VAS scale	69.2 ± 25.9	43.5 ± 27.6	**<0.001**
PGI-I	n/A	2.8 ± 0.9	n/A

2 - THE ASSOCIATION BETWEEN VULVODYNIA AND INTERSTITIAL CYSTITIS / BLADDER PAIN SYNDROME: A SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

Vulvodynia (VVD) is a debilitating chronic vulvar pain experienced for at least three months, without clear identifiable cause. Women with VVD are more likely to experience known comorbidities including fibromyalgia, depression, irritable bowel syndrome, endometriosis, interstitial cystitis/bladder pain syndrome (IC/BPS) and urinary tract infections. IC/BPS is a chronic and complex illness characterized by an unpleasant sensation (pain, pressure, discomfort) perceived as related to the urinary bladder, associated with lower urinary tract symptoms lasting more than six weeks, in the absence of infections or other identifiable causes. Both VVD and IC/BPS are chronic pain conditions, that reduce quality of life and significantly impair women's ability to pursue and enjoy sexual relations. The aim of our study is to determine the coexistence of VVD and IC/BPS since they share comorbidities and possibly a common etiopathogenic pathway.

MATERIALS AND METHODS

Studies assessing the coexistence of VVD and IC/BPS were included. Reviews, letters to the editor, conference abstracts, book chapters, guidelines, Cochrane reviews, and expert opinions were excluded. To identify potentially eligible studies, we searched PubMed, Scopus and Cochrane Library (up to August 18, 2022). The considered timeframe for article inclusion was from 2000 to 2022. No language restrictions were applied. We used a combination of keywords and text words: "vulvodynia", "interstitial cystitis," "bladder pain syndrome," "urinary," "bladder," and "pelvic pain." Two reviewers independently screened titles and abstracts within database searches. Data about coexistence of VVD and IC/BPS, risk factors, associated pathologies and treatment options were collected.

RESULTS

Thirteen studies were included. Among them, 11 presented a positive association between the syndromes. Out of 13 eligible studies, 10 were designed as cross-sectional studies, 3 were designed as a case–control study. The mean sample size was 709 participants, with a minimum of 34 patients and a maximum of 2696 patients. We also investigated the shared comorbidities associated with VVD and IC/BPS. They can be divided into two main categories: chronic pain conditions and uro-gynecological disorders. The first category comprises irritable bowel syndrome (IBS), coxofemoral joint pain, temporomandibular joint pain, fibromyalgia, and tension headache. The second group includes vulvo-vaginal and urinary tract infections (UTIs). Bridging the two categories is endometriosis, which can be considered at the same time both a uro-gynecological and a systemic condition. Furthermore, we investigated the impact of VVD and IC/BPS on sexual life. Four studies investigated the burden of IC/BPS on sexual life showing a positive correlation, while none investigated the effect of VVD on sexual functions.

INTERPRETATION OF RESULTS

The correlation and positive association between VVD and IC/BPS may be explained throughout some commonalities of pathology that have been identified. The shared pathogenetic pathways are abnormal mast cells activation, which release vasoactive, nociceptive and proinflammatory molecules, and neurogenic inflammation that leads to neuropathic pain and central sensitization. In a similar way, these pathogenetic mechanisms appear to be shared by other chronic pain syndromes that are frequently related to IC/BPS and VVD, including irritable bowel syndrome and fibromyalgia. It is established that these inflammatory responses play a role as the first triggering factors leading to chronic urogenital pain syndromes, which may have a profound effect upon women's psychophysical wellbeing and quality of life. For this reason, in the purpose of treating the physical, sexual, and psychological burden of these disorders, a multidisciplinary approach is fundamental to target the multiple facets of chronic urogenital pain and altered sexual function.

CONCLUSIONS

VVD and IC/BPS are both complex and multifactorial syndromes. This review presents an association between them, but additional studies on the topic should be conducted for a more precise conclusion.

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3 - THE INCIDENCE OF ABNORMAL VAGINAL PATHOLOGY IN PATIENTS WITH PELVIC ORGAN PROLAPSE UNDERGOING COLPORRHAPHY

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INTRODUCTION

Pelvic organ prolapse is a benign and common condition, especially in postmenopausal women. The incidence of abnormal vaginal pathology in women undergoing prolapse repair is unknown. However, there is a lack of clarity regarding the pathological evaluation of vaginal tissue collected during colporrhaphy. This study aims to investigate the incidence of abnormal vaginal epithelial pathology, which is collected during colporrhaphy procedures in patients with pelvic organ prolapse without any risk factors.

MATERIALS AND METHODS

This single-center retrospective study was conducted from January 2009 to March 2023 in a tertiary medical center in Israel. The study included all the patients undergoing colporrhaphy for pelvic organ prolapse for benign indications. Vaginal specimens from the colporrhaphy procedure were routinely sent for pathological examination. The exclusion criteria were no recorded histopathological report or known premalignant and malignancy of the uterus and cervix. The medical records were retrospectively reviewed.

RESULTS

A total of 980 patients underwent colporrhaphy procedure. After applying the aforementioned exclusion criteria, 819 patients with an average age of 62±13.4 years were included in this study. 478 patients (58%) underwent both anterior and posterior colporrhaphy, anterior colporrhaphy alone was performed in 198 (24%) patients, posterior wall repair in 137 (19%) and six patients underwent colpocleisis (1%). Vaginal hysterectomy was performed in 422 patients. Abnormal vaginal pathology was presented in 3 patients (0.37%). The pathology consisted of two patients with vaginal Intraepithelial Neoplasm (VAIN 1 and VAIN 2) and one patient with lichen sclerosis, while the perioperative evaluation of the cervix by PAP and HPV was normal. The incidental uterine pathology comprised ten patients (2.3%). Four (0.9%) with Cervical Intraepithelial Neoplasm (CIN 1,2,3), three (0.7%) with atypical endometrial hyperplasia and two (0.5%) with uterine malignancy. All patients were with preoperative normal sonographic and cytologic evaluation.

CONCLUSIONS

Abnormal vaginal wall pathology sampled during colporrhaphy is relatively rare, but routine histopathological evaluation for patients undergoing colporrhaphy can reveal vaginal or even cervical precancerous condition.

4 - INCIDENCE OF ANAL INCONTINENCE AFTER PRIMARY REPAIR OF OBSTRETRIC ANAL SPHINCTER INJURIES (OASIS).

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INTRODUCTION AND AIM OF THE STUDY

Anal incontinence (IA) has a significant impact on a woman´s quality of life, and its prevalence is associated with previous obstetric history and more specifically Obstetric anal sphincter injuries (OASIS). OASIS is a known major risk factor for AI. However, not every case of OASIS will result in AI, especially after primary repair of OASIS.Damage to the anal sphincter complex occurs in 1–3% of vaginal deliveries, and functional outcomes are linked to the severity of the tear. The main risks factors for OASIS are instrumental delivery, prolonged labor and macrosoma. OASIS can lead to anal incontinence in 38% of patients after one year and it increases up to 40% after twenty-five years.The aim of this study was to describe the incidence of anal incontinence after primary repair of obstetric anal sphincter injuries obstetric in our population between 2012 and 2019.

MATERIALS AND METHODS

An observational prospective study was carried out to describe the incidence of anal incontinence after a primary repair of an OASIS (Obstetrical Anal Sphincter Injuries) in our tertiary center. We included all women who had a vaginal delivery in our hospital and had an OASIS repair from 2012 to 2019. A total of 116 patients were enrolled in the study. Data were obtained from our specific OASIS data record with delivery data and risk factors recorded. Presence of anal incontinence data were obtained by telephone folllow-up using the Wexner scoring system.Data processing and analysis were performed using Stata (Version 14.0 College Station, Texas: Stata Corp LLC). The descriptive results are expressed by years as absolute numbers and percentage of frequency (%) for categorical variables and mean +/- SD for continuous variables.The Ethical Committee of our hospital approved the study protocol. Data was collected in a dissociated anonymous way.

RESULTS

Among 12834 women with vaginal deliveries attended in our hospital from 2012 to 2019, 116 had a primary repair of an OASIS. In the immediate postpartum period, 12% had anal incontinence. On the other hand, 5.1% of them had long-term (3 to 5 years) anal incontinence (2% flatal incontinence and 3 % fecal incontinence). The recorded prevalence of anal sphincter injury was 0.9% occurring more frequently in women with instrumental deliveries (6.5%) vs. eutocic (5.7%) and being forceps the most prevalent among instrumental deliveries. Most of the OASIS were external sphincter injuries (8.1% partial and 3% complete) and being the involvement of the internal sphincter and rectum the minority, 0.5 and 0.3% respectively. Interestingly, 9% of newborn were macrosomes and 30% of women had a prolonged expulsive labour phase, with no differences in the prevalence of subsequent anal incontinence (Fig 1).

INTERPRETATION OF RESULTS

The present study shows an incidence of long-term (3 to 5 years) of 5.1% anal incontinence in patients after a primary OASIS repair who had a vaginal delivery in our tertiary center from 2012 to 2019.

Sideris et al, found in their meta-analysis that among the 103 studies included involving 16,110 women. Of all women who delivered vaginally, OASIS were diagnosed on ultrasound in 26 % (95 %CI, 21-30, I^2 = 91 %), and 19 % experienced anal incontinence (95 %CI, 14-25, I^2 = 92 %). In women without clinical suspicion of OASIS (n = 3688), sphincter defects were observed in 13 % (10-17, I^2 = 89 %) and anal incontinence experienced by 14 % (95 % CI: 6-24, I^2 = 95 %). Following primary repair of OASIS, 55 % (46-63, I^2 = 98 %) of 7549 women had persistent sphincter defect with 38 % experiencing anal incontinence (33-43, I^2 = 92 %). There was a significant association between ultrasound diagnosed OASIS and anal incontinence (RR 3.74, 2.17-6.45, I^2 = 98 %).

In our center, we have performed biannually OASIS repair training courses since 2010 to improve the competency in repairing OASIS in our clinicians.

Most of the OASIS in instrumental deliveries were found in forceps deliveries in our population. It is important to consider that the study includes data from 2012, when the use of forceps was predominant, and also that the use of vacuum has been generalised in our center in detriment of forceps only since 2018, so the absolute number of vacuums persists considerably inferior.

CONCLUSIONS

Women and clinicians should be aware of the high risk for sphincter defects following vaginal delivery. This underlines the need of careful and systematic perineal assessment after birth to mitigate the risk of missing OASIS. There is the need for provision of robust training for clinicians to achieve proficiency and sustain competency in repairing OASIS.This research should encourage future research of all women with OASIS repair to detect sphincter persistent defects with

ultrasound that could change our clinical practice and select accurately those patients in risk and would benefit from prevention acts.

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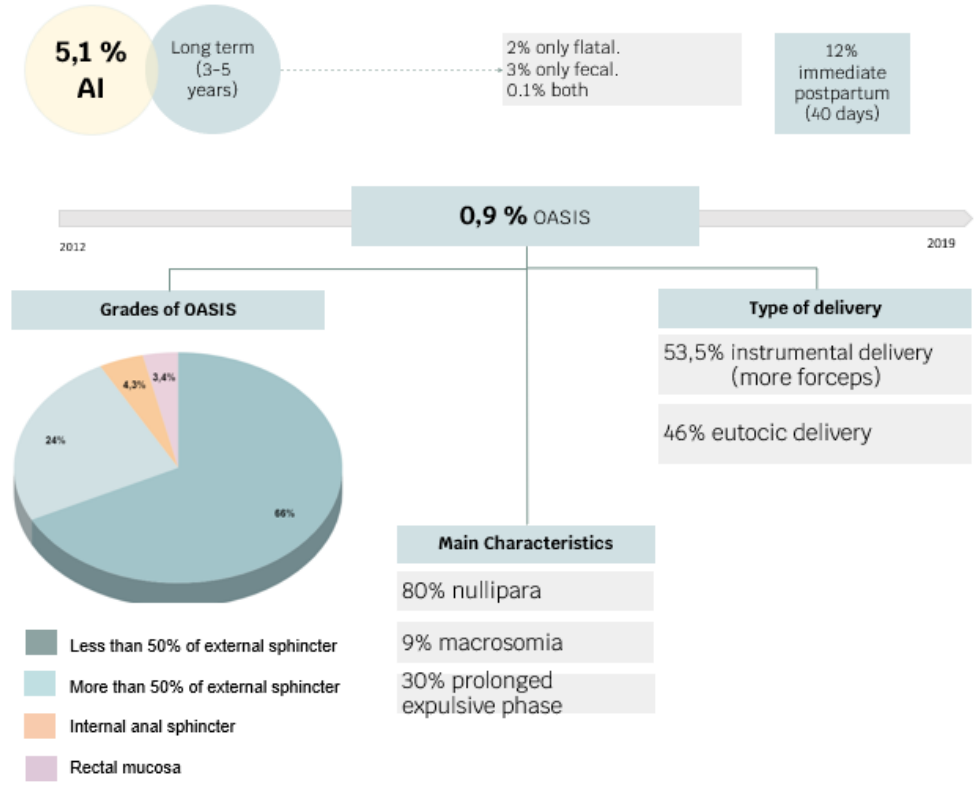
Figure 1



5 - COMPARISON OF TWO MODIFICATIONS OF LAPAROSCOPIC SACROHYSTEROPEXY – PILOT STUDY

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INTRODUCTION

According to studies, 40-54% of women undergoing surgical treatment for pelvic organ prolapse (POP) prefer uterine preservation. Sacropexy is generally considered the gold standard in surgical treatment of the apical compartment prolapse. Currently, laparoscopic hysteropexy techniques are commonly used but may be associated with a higher risk of failure in the anterior compartment compared to non uterus-preserving variants (sacro-cervicopexy, sacrocolpopexy). With the aim of improving these outcomes, a modified technique of laparoscopic hysteropexy called the "Pilsen modification" was developed.

STUDY DESIGN

This pilot study was conducted from 2015 with a 12-month follow-up period ending in December 2022. From 2015 to 2019, the standard technique of laparoscopic hysteropexy was performed, and from 2019 to 2021, the Pilsen modification was utilized

OBJECTIVE

To compare the safety of the new technique, peri and postoperative outcomes based on a 12-month follow-up in the pilot study.

RESULTS

We analyzed 87 operated patients, of whom 84 (96.5%) completed the 12-month follow-up. Forty-nine (56.3%) patients underwent laparoscopic hysteropexy using the standard technique, and 38 (43.7%) patients underwent hysteropexy with the Pilsen modification. The demographic characteristics such as patient age, BMI, parity, and the number of previous POP surgeries did not differ significantly between the groups. No significant differences were observed in the estimated intraoperative blood loss, number of intraoperative and early postoperative complications. No failures in the apical compartment ($C \geq -TVL/2$) were recorded in either group during the 12-month follow-up. Anatomical failure in the anterior compartment defined as $Ba \geq -1$ was observed in 8 patients (17.0%) in the standard hysteropexy group and in 1 patient (2.7%) in the Pilsen modification group ($p = 0.07$). Both the standard hysteropexy group and the Pilsen modification group showed a high percentage of subjective improvement according to PGI-I (PGI-I 1 and 2 in 89.4% vs. 94.6% of patients).

CONCLUSION

In this pilot study, we confirmed the positive safety profile of the Pilsen modification of laparoscopic hysteropexy and a high percentage of subjective improvement in patients treated with this technique.

6 - ANTERIOR VAGINAL WALL REPAIR WITH MIDLINE PLICATION OR PURSUE-STRING TECHNIQUE: A COMPARISON OF ANATOMICAL OUTCOMES

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INTRODUCTION AND AIM OF THE STUDY

Surgical treatment of anterior vaginal wall prolapse by native tissue repair consists of anterior colporrhaphy, which involves strengthening the anterior vaginal wall by plicating the pubocervical fascia closer to the midline. To achieve this, several techniques have been developed (1), including standard Kelly median plication (MP), in which the pubocervical fascia is plicated and sutured closer to the midline with single stitches, and the purse-string technique (PS), which involves concentric approach of the fascia from all sides to the centre with two continuous sutures. The aim of our study is to compare the two techniques in terms of anatomical recurrence of post-operative prolapse as measured by POP-Q assessment.

MATERIALS AND METHODS

A retrospective analysis was performed on patients who underwent exclusive anterior colporrhaphy for cystocele using two different techniques (standard midline plication and purse-string) in our Center from 2005 to 2022. All patients underwent a pre-operative evaluation of the prolapse and post-operative examinations 3, 6 and 12 months after surgery, and then annual follow up visits. During each visit, prolapse grading was assessed using the POP-Q classification. The two groups of patients were compared in terms of anatomical and clinical recurrence of prolapse, meant as the presence of a grade II or a grade III prolapse in the anterior compartment respectively. The risk of anatomical and clinical recurrence over time was assessed using a Kaplan-Meier curve for each group.

RESULTS

The study population included 64 women, of whom 37 underwent MP and 27 PS. The two populations were comparable for pre-operative prolapse grading and for main baseline characteristics (age, BMI, number of vaginal deliveries). The group of patients who underwent MP showed significantly better anatomical parameters measured during the 1 year post-operative POP-Q evaluation of the anterior compartment than the PS group, including Aa (-1.43 in the MP group vs. -0.81 in the PS group, p-value 0.026) and Ba (-1.57 and -0.70 respectively, p-value 0.012). Anatomical recurrence of anterior prolapse was assessed using Kaplan-Meier curves with a log-rank test (χ^2 8.036, p 0.005) from POP-Q assessment during post-operative and annual follow-up visits, and is significantly more frequent in patients who underwent PS; on the other side, clinical recurrence of anterior prolapse assessed using Kaplain-Meier curves showed no significative difference between the two techniques.

INTERPRETATION OF RESULTS

The evidence suggests that PS might carry a slightly worse postoperative outcome at 1 year after surgery and an increased risk of anatomical recurrence of prolapse in time, though this result is not confirmed by the rate of clinical recurrence over time.

CONCLUSIONS

Recurrence after surgical repair of anterior vaginal prolapse with anterior colporrhaphy is frequent and the use of MP seems to give better post-operative outcomes and reduced rate of anatomical recurrence over time compared to the PS; nevertheless, the two techniques seem to have a similar efficacy in terms of clinical recurrence rate. There is a lack of data on post-operative symptoms and satisfaction, which we hope could be investigated in future prospective studies.

Figure 1. Kaplan-Meier estimators for the study population. Cumulative disease-free survival (DFS) in terms of time to anterior grade II recurrence is significantly reduced in the purse-string group (p 0.005).

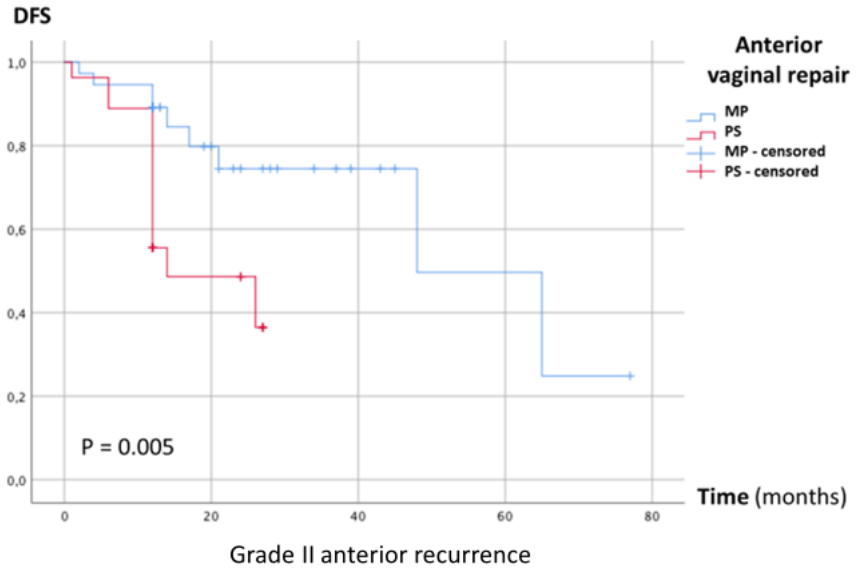
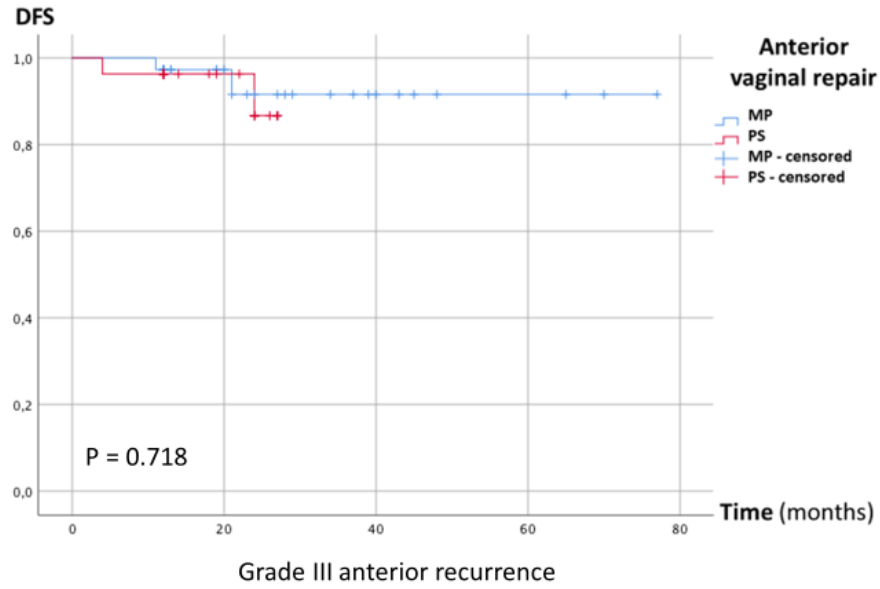


Figure 2. Kaplan-Meier estimators for the study population. Cumulative disease-free survival (DFS) in terms of time to anterior grade III recurrence is similar in the two groups.



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7 - POLYPROPYLENE MESH VERSUS NATIVE TISSUE REPAIR IN TREATMENT OF RECURRENT PROLAPSE – IMPACT ON QUALITY OF LIFE.

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INTRODUCTION AND THE AIM OF THE STUDY

The reoperation rate of pelvic organ prolapse (POP) surgery is very high (up to 36-38%). Women with symptomatic recurrent POP suffer physical and psychological distress. POP symptoms have negative impact on women's social and mental wellbeing, as well as on quality of life and productivity at work.
The aim of the study was to evaluate the patients' quality of life (QoL) after reconstructive surgery for recurrent pelvic organ prolapse using polypropylene mesh or native tissue repair.

MATERIALS AND METHODS

The study group consisted of 214 women reoperated for recurrent pelvic organ prolapse in a single gynecological center. Based on the preoperative assessment according to the POP-Q scale patients were assigned to either conventional vaginal prolapse surgery (anterior and/or posterior colporrhaphy, colpoperineoplasty, Manchester procedure, transvaginal hysterectomy) – 102 patients or polypropylene mesh insertion (TVM anterior, TVM posterior, four-arm polypropylene mesh for vaginal vault prolapse) – 112 patients. 6 months after surgery all patients were asked to complete questionnaires in which they assessed the occurrence and severity of symptoms of pelvic organ prolapse and urinary incontinence and their impact on patients' quality of life. The ICIQ-UI short form, VAS scale and P- QoL questionnaire were used in the study.
The study protocol was approved by The Institutional Review Board and all participants gave written informed consent.

RESULTS

Both groups were homogenous for age (64,89±9,33 in mesh group, 64,48±9,34 in native tissue group), BMI (28,95± 4,26 vs 29,14±4,11) and parity (2,9 vs 3,1). In mesh group mean POP quantification were stages III-IV in POP-Q scale, while in native tissue group – II and III (96,4% vs 89,2%, Chi2= 19,888, p<0,001). In both group the most common finding during gynecological examination was central defect (60.7% in mesh group vs 41,2% in native tissue group). In 25.5% women from native tissue group posterior vaginal wall defect was observed. 83 women (74%) from mesh group and 21 (20%) from native tissue group underwent hysterectomy in the past. There were no differences between groups as to urinary incontinence and declared physical work. According to P-QoL questionnaire higher satisfaction was observed in 6 domains in mesh group and only in one domain in native tissue group ("general health perception"). No statistical significance was noted in domains "prolapse impact" and "sleep/energy". VAS scale showed no differences between groups regarding pain, urinary incontinence, fecal incontinence and quality of sexual life. Better functioning in daily life was declared by women after mesh surgery. No difference between groups was observed regarding ICIQ-UI short form. (Table 1).

Table 1 *Mean results of PQoL questionnaire, VAS scale and ICIQ-UI short form 6 months after surgery.*

	Vaginal mesh N= 112	Native tissue repair N=102		
	Mean ± SD	Mean ± SD	Z	p
PQoL questionnaire				
General health perception	39,73 ±20,29	33,82 ±18,83	**-2,059**	**0,040**
Prolapse impact	20,24 ±22,53	28,43 ±29,81	-1,807	0,071
Role limitation	18,15 ±21,17	30,39 ±31,24	**-2,584**	**0,010**
Physical limitation	17,26 ± 20,49	26,96 ±28,92	**-2,102**	**0,036**
Social limitation	8,18 ±18,17	16,50 ±25,53	**-2,594**	**0,009**
Personal relationships	18,05 ±19,45	27,23 ±26,84	**-2,363**	**0,018**
Emotions	18,55 ±22,69	29,08 ±32,27	**-2,008**	**0,045**

Sleep/energy	16,81 ±21,16	25,16 ±29,17	-1,601	0,109
Severity measurement	13,69 ±14,53	20,75 ±20,87	**-2,428**	**0,015**
VAS scale				
Pain	2,40 ±1,45	2,49 ±1,87	-0,149	0,882
Urinary incontinence	3,19 ±3,11	2,30 ±2,76	-1,896	0,058
Fecal incontinence	1,87 ±1,63	1,55 ±1,80	-1,760	0,078
Functioning in daily life	1,79 ±1,20	2,65 ±2,04	**-2,843**	**0,004**
Quality of sexual life	1,93 ±1,81	2,26 ±2,12	-0,781	0,435
ICIQ-UI short form	5,40 ±6,17	4,43 ±5,28	-0,776	0,438

INTERPRETATION OF RESULTS

The treatment of recurrent pelvic organ prolapse is a challenging for urogynecologist. Current guidelines recommend mesh augmentation in limited cases, including recurrent prolapse. Most studies concentrate on anatomic failures and adverse events of surgeries for recurrent prolapse, ignoring the impact on quality of life.
Our results showed significant improvement in QoL and no serious deterioration in urinary incontinence, fecal incontinence and sexual function among women after mesh surgery for recurrent POP.

CONCLUSIONS

Mesh augmentation should be considered as an effective and well tolerated treatment option for recurrent pelvic organ prolapse, especially in patients with advanced POP stages and after hysterectomy.

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8 - PREDICTORS OF UROLOGICAL INJURIES COMPLICATING EMERGENCY PERIPARTUM HYSTERECTOMY

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BACKGROUND

Emergency peripartum hysterectomy (EPH) may be associated with urologic complications, mainly bladder and ureter injuries, and fistula. Previous studies investigated factors associated with urinary tract lesions following placenta accreta spectrum (PAS) surgeries, which is the leading indication for pregnancy-related hysterectomy in high-income countries. However, there is still a paucity of literature investigating a comprehensive model to predict urological complications of EPH in general, including vaginal and surgical deliveries.

OBJECTIVE

We investigated incidence, types and risk factors for urological morbidities complicating EPH.

MATERIALS AND METHODS

This is a retrospective cohort study conducted in an academic referral centre for pregnancies complicated by placenta previa or PAS. The study population included all patients undergoing pregnancy-related hysterectomy between 2009 and 2022. Surgical lesions of the urinary tract were defined by the need of direct repair or subsequent additional urological interventions. Cases included were reviewed for secondary hospital admission in the first 6 weeks postpartum. Univariate analysis was used to compare patients with and without urological complications for baseline characteristics, management strategies and outcomes. A multivariate logistic model included significant and relevant variables was then performed. Institutional review board provided the ethical approval for the study.

RESULTS

Among 82,723 women who delivered at our institution, we recorded 141 EPH, with a significantly reduced incidence from 2.1 to 0.9 per 1000 deliveries between the periods 2009-2013 and 2019-2022, respectively. In total, 24 of 141 patients (17.0%) undergoing pregnancy-related hysterectomy experienced urological injuries. Among these lesions, 21 involved the bladder and 3 the ureter. Regarding bladder lesions, the prevalent indication for EPH was PAS, while ureteral lesions were mainly related to uterine atony and sepsis. All cystotomies were intraoperatively repaired, while ureteral lesions were diagnosed and treated 2 to 5 weeks after the hysterectomy. Patients with urologic morbidity had significantly higher proportion of placenta accreta spectrum disorders and lower gestational age at delivery. After adjustment for confounding variables (Table 1), the number of previous caesarean deliveries and the intraoperative estimated blood loss in litres were found to be independent risk factors for urological complications (odds ratio [OR] 2.65, $p = 0.006$, and OR 1.49, $p = 0.002$, respectively) (Figure 1).

INTERPRETATION OF RESULTS

In line with reports from high-income countries, PAS represents the main indication for EPH at our institution. Therefore, as expected our incidence of urologic lesions is higher than the rate reported worldwide, which includes low-income countries where subtotal EPH for uterine rupture or atony prevails, but lower than reports focused solely on hysterectomies for PAS. As reported in the literature, previous caesarean sections are associated with higher incidence of placenta previa and PAS disorders. The latter condition is a well-known significant risk factor for urological lesions, as confirmed by our findings. Although estimated blood loss is usually reported as an outcome, we decided to include it as a possible contributing factor to urological complications. Massive haemorrhage may lead to hemodynamic instability of the patient, reduces the visibility in the operative field, and requires rapid emergency procedures including hysterectomy, therefore increasing surgical complexity. This study provides clinicians with a comprehensive perspective on urological injuries complicating EPH.

CONCLUSION

We reported the number of previous cesarean deliveries and the intraoperative estimated blood loss in litres as independent predictors of urologic lesions during EPH. Efforts aimed at reducing the incidence of EPH must be sustained in order to minimize the burden of its complications. Choosing subtotal hysterectomy when possible may help reduce urological lesions. Postoperative ultrasonographic screening of the urinary tract may facilitate early detection of undiagnosed ureteral complications.

9 - EFFECT OF RADIOFREQUENCY IN THE TREATMENT OF DE NOVO DYSPAREUNIA AT 4 TO 14 MONTHS POSTPARTUM: A RANDOMIZED PROSPECTIVE STUDY. PRELIMINARY RESULTS

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INTRODUCTION AND AIM OF THE STUDY

A delivery with episiotomy, perineal tearing or labor dystocia using forceps or vacuum, are risk factors that contribute to the appearance of *de novo* dyspareunia with a prevalence of 17-45% at 6 months postpartum. Dyspareunia is a type of genito-pelvic pain (GPP) that takes place during vaginal penetration at some point in sexual intercourse. It greatly affects quality of life as well as psychological and sexual wellbeing.

There is no evidence in the scientific literature of the effect of radiofrequency (RF) in patients with de novo dyspareunia due to an obstetric injury. It is for all the previously mentioned that the following project is proposed, to evaluate the effect of RF in perineal scars and vaginal trigger points in these specific patients.

The main objective of this study is to evaluate the role that radiofrequency (RF) plays in reducing the level of pain in *de novo* dyspareunia in postpartum women that persists from 4 to 14 months.

MATERIALS AND METHODS

A randomised prospective trial is being conducted in women presenting *de novo* dyspareunia upon resumption of coital intercourse after having a vaginal delivery with episiotomy, obstetric tearing of the anal sphincter (identified and repaired during labour), labour dystocia, and/or a macrosomic infant. In this study we identify two groups that have received 5 sessions of RF. The intervention group (IG) receives treatment with activated RF, and the control group (CG) receives sham treatment and the groups are double-blinded. Other than RF, both groups perform daily perineal massage at home. We have evaluated, as a main variable, the level of pain using the Visual Analogue Scale (VAS) in the initial session and at the end of the 5 sessions. As secondary variables we have evaluated the sexual function, quality of life and other pelvic floor dysfunction symptoms.

RESULTS

To date, we have included 50 women, 38 of which finished the 5 sessions, with a mean age of 36.58 (SD 7.37). 52.8% of the women presented an episiotomy and 44.4% had a 2nd or 3rd degree perineal tear. 22.2% of the women had a levator ani muscle avulsion and 16.7% a lesion of the anal sphincter.

A decrease of the level of pain during coital sexual intercourse has been observed at the end of the treatment of -4.139 points (SD 2.09) regarding the baseline VAS pain level in the IG (n=18) and -2.900 points (SD 1.91) in the CG (n=20), although not statistically significant (p=0.065).

CONCLUSIONS

The preliminary analysis of the 38 patients that have already finished the 5 sessions of treatment together with daily perineal massage shows a higher decrease of the level of pain during penetration in the IG compared to the CG.

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10 - URINARY TRACT INJURIES DURING GYNECOLOGICAL SURGERY: INCIDENCE RATES AND RISK FACTORS, A 7-YEAR REVIEW IN A TERTIARY CENTER.

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INTRODUCTION

In women, due to the anatomical proximity of the genital and urinary systems, gynaecological surgical interventions pose a potential risk of urological injury (1). According to the literature, the overall rate of urinary tract injury associated with pelvic surgery in women ranges from 0.5 to 1.5% (2); being the incidence of bladder and ureteral lesions of 0.36-0.5% in abdominal hysterectomies, 0.1-1.8% in vaginal hysterectomies and reaching up to 30% in radical surgeries (3). These injuries are usually divided into two categories: firstly, acute complications, such as laceration of the bladder or the ureter, which can be identified immediately during the operation and secondly, chronic complications such as vesicovaginal fistula, ureterovaginal fistula and ureter stenosis, which can occur later after the operation (1).

Moreover, the nature and incidence of urological lesions vary with the surgical procedure, the etiology of the disease leading to surgery and previous surgery. Some of the risk factors that increase the risk of urological injury in gynecological operations are prolonged surgery, presence of endometriosis, gynecological malignancies, history of pelvic surgery, pelvic adhesions or uterine fibroids (2).

Therefore, knowledge of the incidence and risk factors of urological lesions during gynecological surgery would be useful in prevention, in early recognition and even in providing adequate treatment in a timely manner. The aim of this study was to determine the prevalence of urological lesions in gynecological surgeries in a single university hospital in a 7-year period, as well as to identify the risk factors that may be associated with them.

MATERIALS AND METHODS:

An observational retrospective study was carried out to describe the incidence of urological lesions in our center. We have included all women who have undergone gynecological surgery in our hospital from January 2016 to June 2023. Data was obtained from the electronic database record of the hospital and 2447 women were enrolled in the study. Patients with an incomplete clinical history were excluded.

Data processing and analysis were performed using Stata (Version 14.0 College Station, Texas: Stata Corp LLC). The descriptive results are expressed through absolute frequency tables and percentages for the categorical variables, and through the mean, interval, standard deviation and minimum and maximum values for the continuous variables. The Ethical Committee of our hospital approved the study protocol and the data was collected in a dissociated anonymous way.

RESULTS

From 2447 gynecological operations performed in our department in the study period, 37 cases of urological lesions were found (overall 7-year incidence of 1.51%). The incidence of ureter and bladder injury were 0.86% and 0.65%, respectively (table 1). The open surgical approach had 21 cases of urological lesion (1.71%), while the laparoscopic approach had 16 cases (1.31%). Also, the highest incidence of urological lesion (2.37%) was in the oncologic surgeries, being the radical abdominal hysterectomy the surgery with more urological lesions (table 2). Among the 21 patients with bladder injury, 19 (90.5%) were recognized at the time of surgery whereas 4 (25%) of the 16 patients with ureteric injury were detected intraoperatively (table 3). Regarding pelvic floor surgery, 5 of the 7 cases were in vaginal hysterectomies and 2 in suburethral tension adjustable sling (REMEEX system) (table 4). Previous pelvic surgery was present in 22 (59.5%) of the 37 patients. The mean age of patients with urologic injuries was 59 ± 12.4 years, the mean BMI was 28.6 ± 6.8 kg/m² and the median parity was 2 (table 5).

Table 1. Type of surgical approach performed in patients with urological injury

Surgical approach	Injury site		Total (ureter + bladder)
	Ureter N (%)	Bladder N (%)	
Open (1227)	**7 (0.57%)**	**14 (1.14%)**	**21 (1.71%)**
- Abdominal (559)	6 (1.07%)	7 (1.25%)	13 (2.3%)
- Vaginal (668)	1 (0.15%)	7 (1.04%)	8 (1.19%)
Laparoscopic (1220)	**9 (0.74%)**	**7 (0.57%)**	**16 (1.31%)**
Total: 2447	**16 (0.65%)**	**21 (0.86%)**	**37 (1.51%)**

Table 2. Incidence of urological lesion in relation to the type of operation

Type of operation N	Urological lesion N (%)
Benign gynecologic (1061)	11 (1.03%)
Oncologic gynecologic (801)	19 (2.37%)
Pelvic floor (585)	7 (1.19%)
Total: 2447	**37 (1.51%)**

Table 3. Time of diagnosis for urologic injury

Site of injury	Intraoperative detection N (%)	Postoperative detection N (%)
Bladder (N=21)	19 (90.5%)	2 (9.5%)
Ureter (N=19)	4 (21%)	15 (79%)

Table 4. Incidence of urological lesion in relation to pelvic floor surgeries

Type of operation	Urological lesion N (%)
Vaginal hysterectomy	1 (14.3%)
Vaginal hysterectomy + Anterior-Apical Transvaginal Mesh (Surelift)	2 (28.57%)
Vaginal hysterectomy + anterior colporrhaphy	2 (28.57%)
Suburethral tension adjustable sling (REMEEX system)	2 (28.57%)
Total:	**7**

Table 5. Demographic characteristics in patients with urological injury

Characteristics	
Age (years) mean + DS	58.97 ± 12.43
BMI (kg/m²), mean + DS	28.64 ± 6.8
Parity, median (min, max)	2 (0, 6)
Previous pelvic surgery N (%)	
- No	15 (40.54%)
- Si	22 (59.46%)
Previous history of endometriosis N (%)	
- No	36 (97.3%)
- Si	1 (2.7%)

DISCUSSION

In the present study, the 7-year incidence of urologic injury during gynecological surgery was 1.51%, comparable to previous studies which varies from 0.5 to 1.5%. The most common site of injury was the bladder with an incidence of 0.86%, which is consistent with that reported in abdominopelvic surgery from the largest national series performed in the United States, published in 2016 (5). According to the same study, the approach with the highest incidence of bladder injury (BI) was the open one. Being it more common in the vaginal route (43.6%) compared to the abdominal (38.3%) and laparoscopic (8%) ones. On the other hand, the 10-year review study in Thailand also reported a higher incidence of BI in the open approach, but in this study, the abdominal route had a higher incidence (0.19%), compared to the vaginal (0.19%) and laparoscopic (0.10%) ones. In our study population, the largest incidence of BI incurred also during open surgical approach, which compares well with these studies. Specifically, rates of BI were 1.25% in the abdominal route, 1.04% in the vaginal route, and 0.57% in the laparoscopic route. Regarding to the ureter injury (UI), its incidence in our study was higher in the laparoscopic approach (0.74%) than the open one (0.54%), keeping relation to other review (1) that also had a higher incidence in laparoscopic surgery (0.6%) than in abdominal surgery (0.07%). In addition, Serdar et. al determined that hysterectomy was the most frequent cause of ureteral injuries.

As to the type of surgery, our study revealed that oncologic processes were the most associated with urological lesions, which is aligned to other study results. Regard the pelvic floor surgeries in our population, its urological lesion incidence was of 1.19%. Currently mid-urethral slings are the most frequently used method in surgical treatment of stress urinary incontinence (1). In our study, we had an incidence of 28.57% of BI with the REMMEX system, which was diagnosed intraoperatively thanks to the routine cystoscopy use in this type of surgeries. The vaginal hysterectomy + Surelift technique represented also the 28.57% of BI of all the pelvic floor surgeries, and the use of methylene blue was key in their intraoperatively diagnosis.

In this study, 90.5% of bladder injuries were recognized at the time of surgery whereas only 21% of ureteric injury were detected intraoperatively. These detection rates are similar to a 20-year review study of patients who underwent major obstetric and gynecologic surgery from 1985 to 2004 in Pakistan, in which 91.5% of blader injuries were identified intraoperatively but only 28% of ureteric injuries were (4). However, our rates were higher than a more recent study in patients who underwent gynecologic surgery from 2005 to 2014 in Thailand, in which 92.3% of bladder and 75% and ureteral injuries were found intraoperatively (5). With that being said, routine intraoperative cystoscopy may be helpful in the early detection of urological injury as it was reported that the detection rate of ureter injury was 1.6 out of 1,000 without cystoscopy, compared to the 6.2 out of 1,000 with cystoscopy (3).

Lastly, regarding the risk factors studied, previous pelvic surgery was present in 59.5% of patients who underwent urological lesions. According to Sikarn et al. (5) previous pelvic surgery and pelvic adhesion were the only statistically significant risk factors suggesting that preoperative evaluation and use of meticulous and careful techniques are key in avoiding urologic injury.

CONCLUSION

Urinary bladder injury was the most common urinary tract injury during gynecologic surgery. Possible predisposing factors for urinary tract injury are oncologic processes and previous pelvic operation history. Slings and meshes use in pelvic floor surgeries are the most related to bladder injuries. If injury does occur, intraoperative detection, whether through direct inspection or through the use of a cystoscopic technique, helps ensure a good outcome.

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11 - COMPARISON OF ULTRASOUND AND CLINICAL OASI CLASSIFICATION

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INTRODUCTION AND AIM OF THE STUDY

An obstetric anal sphincter injury (OASI) is a well-established risk factor for anal incontinence. A diagnosis of OASI should be made immediately after delivery and is considered basic knowledge. Repair of the OASI is performed immediately after delivery and delayed examination after delivery is recommended. Although an anal sphincter was done correctly, there is a risk of a residual OASI that could lead to worsening symptoms of anal incontinence. A question prevails about the clinical overestimation/underestimation of OASI and the symptoms of anal incontinence. Currently, pelvic floor ultrasound classification is available for anal sphincter injuries. The objective of our study was to compare ultrasound and clinical classification of OASI.

MATERIALS AND METHODS

A retrospective study on women after an assisted vaginal delivery with OASI between 2011 and 2019 of our perineal clinic. All women underwent immediate repair of the OASI and were invited for examination at least three months after delivery. The women underwent a transperineal ultrasound examination. The acquired volumes were analysed in proprietary software by the evaluator blind to clinical data. An analysis of an anal sphincter was performed using eight slices in tomographic imaging (TUI), and the most caudal slice was placed caudal to the termination of an internal anal sphincter. The inter-slice interval of the TUI was set at 2.5mm. As the residual OASI was defined as a defect >30° in an external anal sphincter continuity at least in four out of the six central slices. Six central TUI slices were evaluated for abnormalities of the anal sphincters, and in the case of fewer than four abnormal slices, the OASI was classified as grade IIIa, in four or more abnormal slices as grade IIIb, any abnormality internal anal sphincter as a grade IIIc, and abnormalities of rectal mucosa as a grade IV.

RESULTS

Of the 201 women after vaginal assisted delivery, 58 women were also diagnosed with OASI and were included in the analysis. 36 were delivered with the assistance of vacuum extraction and 22 after a forceps-assisted delivery. The mean maternal age was 30.19 (SD 2.48), and the mean BMI was 21.8 (SD 1.9). Primiparous was 96.6% women.
The clinical grade of OASI IIIa was in 18 (31.03%) women, IIIb in 30 (51.72%) women, IIIc in 8 (13.79%) women, and IV in 2 (3.45%) women.
The ultrasound grade of OASI IIIa was in 7 (12.06%) women, IIIb in 21 (36.20%) women, IIIc in 17 (29.31%) women, IV in 2 (3.45%) women and in 11 (18.97%) women there was no abnormality of the anal external or internal sphincter.
Table 1 depicts the number of clinical cases and corresponding ultrasound cases. The graphic representation is in Fig. 1. with a residual defect in 1 case diagnosed as clinical grade IV, in 1 case as clinical IIIc, in 4 cases as clinical IIIb, and even in 3 cases as clinical IIIa.

INTERPRETATION OF RESULTS

There was a good correlation between ultrasound and clinical grade IV, but in lower grades of OASI, there was no association between clinical and ultrasound grade of OASI. The question of the specificity of clinical classification as in the clinical IIIa group were cases with residual OASI, which by definition could not be possible.

CONCLUSIONS

The results from our study group imply the necessity of a postoperative examination.

Table 2 - clinical and ultrasound grading of OASI - No. of cases

	Ultrasound 0	Ultrasound IIIa	Ultrasound IIIb	Ultrasound IIIc	Ultrasound IV	Summary
Clinical IIIa	4	2	9	3	0	18
	36,36%	28,57%	42,86%	17,65%	0,00%	31,03%
Clinical IIIb	6	5	10	9	0	30
	54,55%	71,43%	47,62%	52,94%	0,00%	51,72%
Clinical IIIc	1	0	2	5	0	8
	9,09%	0,00%	9,52%	29,41%	0,00%	13,79%

Clinical IV	0	0	0	0	2	2
	0,00%	0,00%	0,00%	0,00%	100,00%	3,45%
Summary	11	7	21	17	2	58
	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

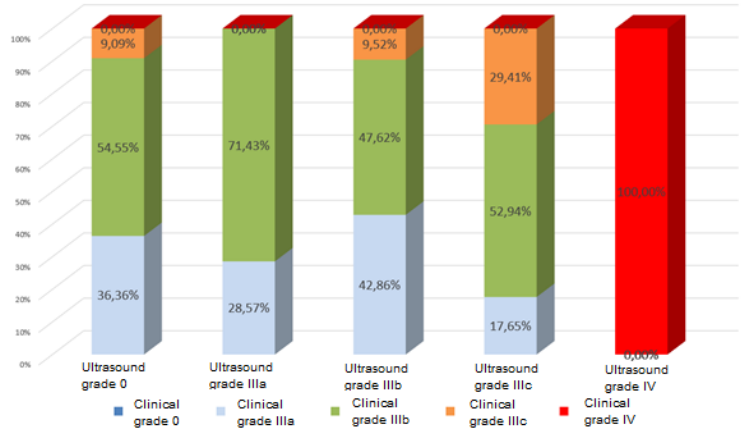

Fig. 1 - Clinical/Ultrasound grading

12 - CHANGING TRENDS IN POP RECONSTRUCTIVE SURGERY - SINGLE CENTER EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) and associated lower urinary tract symptoms (LUTS) are a major epidemiological problems that severely affects women quality of life. Approximately every fourth woman reports one or more PFDs. Currently, because several global regulatory agencies have issued health warnings concerning mesh products which were used in POP repair followed by judicial proceedings, primary surgical treatment strategies have widely returned primarily to vaginal native tissue repair (VNTR) [1]. Nowadays, clinicians agree that current surgical strategy should, at first, take into account the safety of the procedure and the reversibility of the potential complications—and not only the risk of recurrence [2]. The aim of the study was to investigate how POP surgical treatment strategies changed over last several years when serious mesh complications accompanied by FDA warnings changed our attitude to this kind of reconstructive surgery. The secondary objective was to assess the most common complications of different surgical techniques.

MATERIALS AND METHODS

Retrospectively we have searched a database of single high-volume Gynecological Centre from January 2010 to December 2018 in order to identify patient who were operated due to POP. All operated patients had POP at least the second or higher degree according to POP-Q scale. Patients were placed into four groups depending on the type of POP surgery performed: group 1: native tissue repair; group 2: mesh repair (either anterior, posterior or both); group 3: vaginal hysterectomy, and group 4: sacrocolpopexy. We analyzed how was POP managed in particular year and what complications mainly occurred intraoperatively and during the hospital stay. Demographic patient data are given in Table 1.

Table 1. Demographic patiens' data stratified by surgery date.

Year	Age (mean)	Vaginal births (median)	Caesarean sections (median)
2010	60.8	2.51	0.08
2011	60,77	2.58	0.05
2012	62.02	2.63	0.05
2013	62.27	2.63	0.05
2014	61.65	2.57	0,14
2015	62.8	2.68	0.07
2016	62.46	2.62	0.04
2017	63.84	2.61	0.07
2018	63.8	2.52	0.06

RESULTS

During analyzed time in our Department 3485 patients were hospitalized and operated due to POP.. The number of VNTR surgeries significantly increased at the cost of mesh repair in 2017 (Table 2). Most common complications were bladder and bowel injury and haematoma. Intraoperative bladder injuries were significantly more frequent in the mesh compared to VNTR procedures whereas rectum or bowel injuries were at the same level. Also, haematoma formation during early postoperative period were more frequent in patients operated with mesh implantation (Table 3).

Table 2. Changing surgical trends in pelvic organ prolapse repair.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Native tissue repair (n)	40	38	46	63	43	49	63	300	259
Mesh repair (n)	303	246	333	311	268	332	366	141	72
Vaginal hysterectomy (n)	13	7	11	21	6	20	16	23	77
Sacrocolpopexy (n)	0	1	1	2	6	5	1	1	1
Previous POP surgery (n)	38	50	73	54	30	94	89	97	96

Table 3. Most common complications after surgical pelvic organ prolapse repair.

Year	Native tissue surgery			Mesh repair (n)		
	Bladder injury	Rectum injury	Haematoma	Bladder injury	Rectum injury	Haematoma
2010	1	1	-	5	-	5
2011	1	-	-	7	-	3
2012	-	-	-	7	1	2
2013	1	-	-	8	-	1
2014	-	1	-	2	1	
2015	2	-	-	7	-	1
2016	1	-	-	8	2	3
2017	4	1	4	4	1	3
2018	-	-	1	3	-	-

No serious complication during vaginal hysterectomy or sacrocolpopexy was observed.

CONCLUSIONS

VNTR is safe surgical procedure for improving the POP symptoms with low complications rate. Thus, it should be considered as the method of choice in primary attempt of surgical treatment of women suffering of POP.

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13 - BLADDER FUNCTION IN PATIENTS UNDERGOING SURGERY FOR DEEP INFILTRATING ENDOMETRIOSIS

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INTRODUCTION AND AIM OF THE STUDY

Post-surgical bladder dysfunction is a common problem after resection of deep infiltrating endometriosis (DIE). It is mediated either through a damage to the bladder innervation caused by surgery or by an endometriosis-associated bladder dysfunction, present already before surgery.
The aim of this prospective cohort study was to evaluate the role of an urodynamic multichannel testing (UCT) to identify patients at risk prior to surgery, as the incidence of pre- and postsurgical bladder dysfunction in deep endometriosis is unclear.

MATERIALS AND METHODS

Hundred-sixteen women with suspicion of DIE, either by clinical examination or Magnetic Resonance Imaging, at the Gynaecology Department in a tertiary centre (2015 – 2022), have been asked to participate in the study. From them 51 premenopausal women with a planned surgery for DIE consented. All underwent surgery with excision of DIE. Staging of DIE was according to #Enzian classification system. UCT has been performed prior as well as 6 weeks after surgery according to the ICS/IUGA guidelines. We assessed postvoid residual (PVR) additionally at the discharge from hospital. Primary outcome measures included UCT parameters, secondary outcome measures subjective micturition disturbance rated by the international prostate symptom score. Higher scores indicating reduced function. Intermittent-self catheterisation (ISC) was indicated in patients with PVR >100ml.

RESULTS

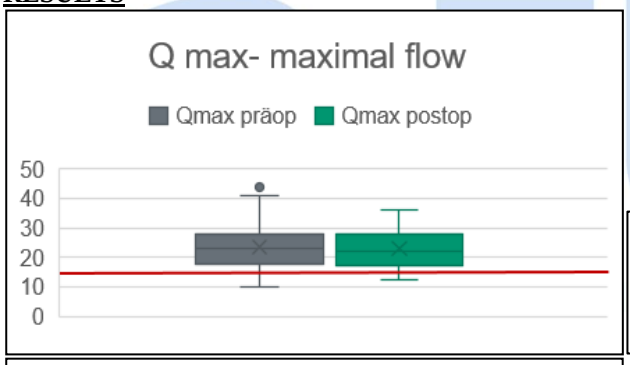

Figure 1
Shows the results of the Qmax (maximal flow) pre- and postoperatively as a box-whisker-plot as median and IQR, P = 0,53

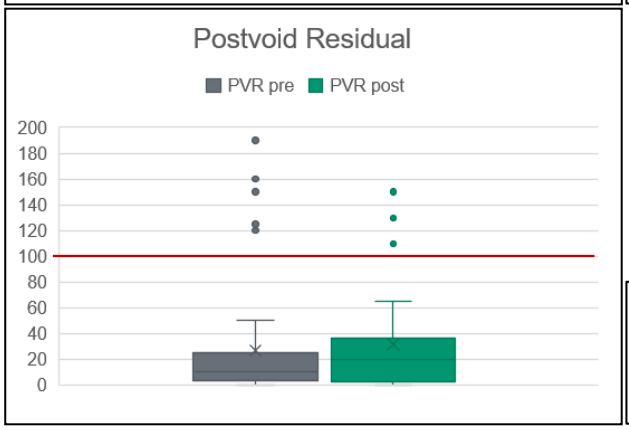

Figure 2
Shows the results of the post void residual pre- and postoperatively as a box-whisker-plot as median and IQR, P = 0.027

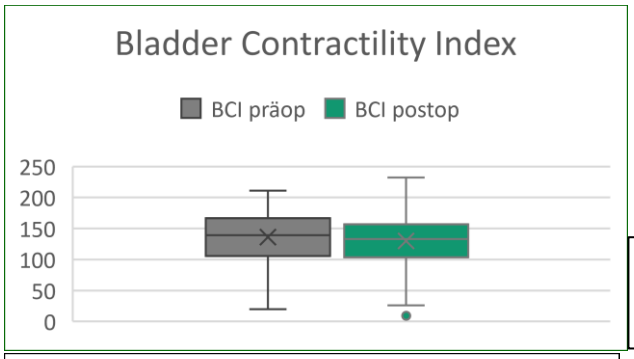

Figure 3 - Shows the results of the bladder contractility index pre- and postoperatively as box-whisker plot in median and IQR, P = 0,57

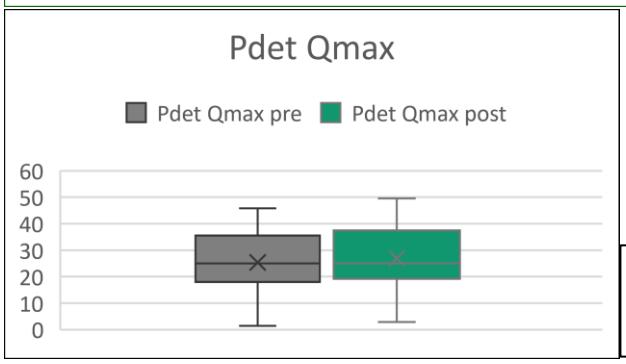

Figure 4 - Shows the results of PdetQmax pre- and postoperatively as box-whisker plot in median and IQR, P = 0,55

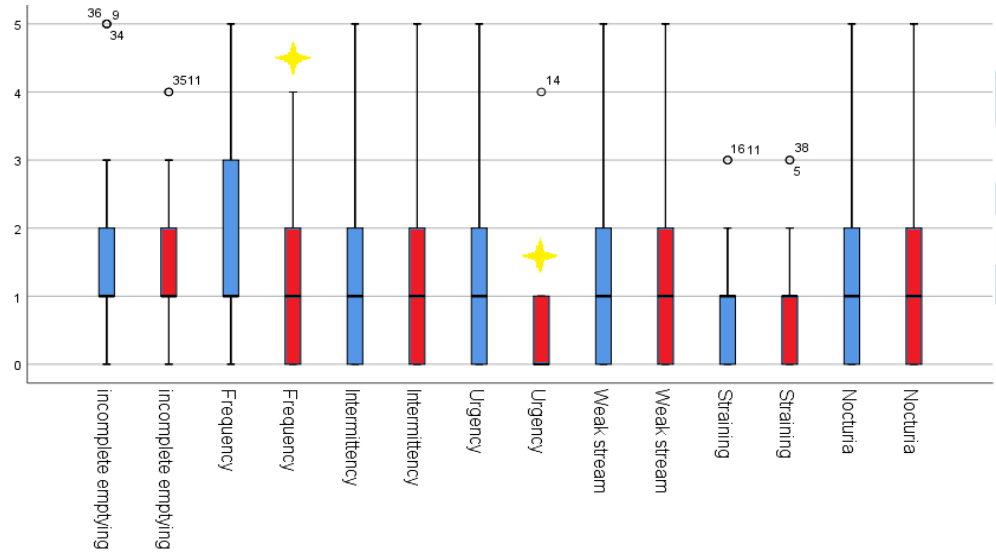

Figure 5
Shows statistical results preoperatively (blue) and postoperatively (red) of lower urinary tract symtpoms described by the IPSS (wilcoxin-rank sum test) in a box-whisker-plot as median and IQR

INTERPRETATION OF RESULTS

Maximal flow (Qmax) did not deteriorate postoperatively with a P= 0.53 (figure 1). Five patients (10%) showed a preoperative clinically significant postvoid residual. From them three had a decreased maximal flow (<15ml/s).
Ten (20%) patients showed a postoperative impairment of the voiding by significant PVR (>100ml). PVR normalized after ISC. Eight patients had a normal maximal flow (Qmax >15ml/s), bladder contractility index (>100) and only two patients had a pre-existent significant PVR with reduced maximal flow and impaired BCI. Another three patients presented preoperative bladder dysfunction with significant PVR that resolved after surgery.

CONCLUSIONS

Impaired bladder function is found in 1/5 of the patients postoperatively after surgery for DIE. As Qmax is not impaired after surgery, we suppose that surgery for endometriosis is a safe procedure regarding the nerve system. The deleterious effect seems to be temporarily since young premenopausal women still have the possibility for compensation. Lower urinary tract symptoms might improve after surgery.

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14 - VAGINAL LASER APPLICATION: PILOT BIOMECHANICAL, HISTOLOGICAL AND MOLECULAR FINDINGS IN WOMEN WITH PELVIC ORGAN PROLAPSE

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INTRODUCTION AND AIM OF THE STUDY

Laser therapy is a clinically used option for treatment of pelvic floor disorders. However, the data supporting mechanism of action are lacking [1] and FDA warns about the use. [2] It is claimed the non-ablative laser supposed to cause ,,collagen stimulation,,. Therefore, we hypothesize the extracellular matrix turnover (tissue remodeling) and metalloproteinase (MMP) activation resulting in volume fraction change of type I and III collagen. The changes might influence the biomechanical properties, which should be accompanied by change in collagen and elastin content. In parallel we evaluated signs of inflammation, represented by IL1 and TGFB1 gene expression. The laser application is also used for the treatment of vulvovaginal atrophy, where the change in epithelium thickness and vascularization would be expected. Within this study we aim to describe selected parameters in investigated population and observe changes after vaginal non-ablative laser application at biomechanical, histological and molecular level.

MATERIALS AND METHODS

Within this prospective interventional pilot feasibility study were enrolled menopausal women with pelvic organ prolapse stage II (cystocele Ba $\geq$ -1) planned for anterior colporrhaphy. First group served as a control (n=6, no intervention), second underwent laser treatment (n=6, Laser CO_2 MIXTO PRO, LASERING SRL, Modena, Italy; three sessions, one per month). The specimens were collected during surgical excision of redundant anterior vaginal wall one month after last laser application in case of treatment group. Each specimen was divided into three samples for: 1/ uniaxial biomechanical analysis (specimen size 25 × 5 mm); 2/ quantitative histology and immunohistochemistry analysis (HaE- epithelial thickness, Orcein – volume fraction of elastic fibres, von Willebrand factor (vWF) - microvessel density, picosirius red - volume fraction of type I and III collagen; 3/ molecular analysis - PCR: interleukin 1 beta (IL1B), collagen type I alpha 1 (COL1A1), transforming growth factor beta 1 (TGFB1), matrix metallopeptidase 1 (MMP1); housekeeping gene used: actin beta (ACTB).

RESULTS

Control and laser group did not significantly differ in age and BMI. The laser application was feasible. Qualitatively, there were no specific difficulties with performing surgery after vaginal laser application, no visual scaring or excessive bleeding. The specimens were possible to collect, store, process and evaluate according to our protocol. The results are summarized in Table 1. The tissue after laser application was stiffer compare to control tissue. Young's modulus of elasticity at low deformations, Young's modulus of elasticity at high deformations and ultimate stress significantly differed between groups. In the control group the epithelial thickness, microvessel density and volume fraction of collagen I and III and elastin were statistically comparable with the laser group. ACTB was tested and chosen as the housekeeping gene, YWHAS was excluded as not suitable. None of the tested genes (IL1B,COL1A1,TGFB1,MMP1) have shown significant difference or any visible trend between laser and control group.

INTERPRETATION OF RESULTS

We hypothesized difference in investigated parameters between laser and control group. In case of active turnover of extracellular matrix, the increase in mean MMP-1 mRNA levels have been described up to 109 times baseline 7 days after laser aplication.[3] Therefore, we can state that at 30 days after third laser application there is not present active strong tissue remodeling accompanied by activation of MMP1. For investigation of difference in this outcome the study has adequate number of specimens based on power analysis.

The study has several limitations. The investigated outcomes have not been described in larger group of investigated population, therefore the population variability can play role in results. This limitation could be overcome by 1/ availability of the specimens from one women before and after laser treatment, however this is recently ethically unacceptable or 2/ higher number specimens.

CONCLUSIONS

Within this study difference between laser and control group was found in biomechanical properties, however this could be also due to population variability. The study is technically and timely feasible. However, a larger study is needed.

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Table 1: Includes group characteristics, biomechanical, histological and molecular results.

		Control (n = 6)	Laser (n = 6)	p
Group characteristics	age (years)	66.7±7.4	68.2±6.2	ns
	BMI (body mass index)	29.4±7.5	31.0±4.2	ns
Biomechanical outcomes	Young's modulus of elasticity (MPa) at low deformations at high deformations	 0.35 ± 0.68 4.41 ± 2.26	 0.90± 0.65 7.28 ± 2.38	 p<0.05 p=0.03
	ultimate stress (MPa)	1.80 ± 0.70	2.39 ± 0.96	p=0.02
	ultimate strain	0.94 ± 0.42	0.62 ± 0.27	ns
Histology and immunohistochemistry	epithelial thickness (µm)	136.45 ± 83.02	194.26 ± 47.51	ns
	microvessel density (mm^{-2})	63.85 ± 9.22	58.61 ± 14.48	ns
	volume fraction of collagen I and III (%)	22.72 ± 2.9	21.52 ± 9.1	ns
	volume fraction of elastic fibers (%)	17.97 ± 2.45	17.11 ± 1.95	ns
Molecular markers	IL1B ($2^{-\Delta\Delta Ct}$)	2.19 ± 2.18	0.76 ± 0.14	ns
	COL1A1 ($2^{-\Delta\Delta Ct}$)	1.20 ± 0.83	1.02 ± 0.94	ns
	TGFB1 ($2^{-\Delta\Delta Ct}$)	1.12 ± 0.52	1.18 ± 0.73	ns
	MMP1 ($2^{-\Delta\Delta Ct}$)	2.22 ± 0.76	4.98 ± 6.99	ns
Mann-Whitney U test , ns= not significant				

15 - FLAT MAGNETIC STIMULATION (DR ARNOLD) IN PATIENTS WITH URINARY INCONTINENCE: RESULTS OF OUR PRELIMINARY EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

Urinary incontinence (UI) is a common female pelvic floor dysfunction. UI is the accidental loss of urine that can occur at any age, especially among women over 50-years-old. According to most studies, UI prevalence range from 25 to 45% and increases with age, affecting more than 40% of the female population after the age of 70 years-old.[1] Many studies have reported the effectiveness of pelvic floor muscle training (PFMT) for treating female UI. There is high evidence that PFMT is beneficial for all types of UI, improving outcomes of cure and quality of life. [2]
Magnetic stimulation (MS) is a novel approach that has been approved by the Food and Drug Administration (FDA) as a conservative treatment for UI since 1998, and it has already shown effective results in previous studies with encouraging long-term response rates. It is becoming a popular non-invasive alternative and attractive treatment for patients who do not wish to undergo surgical procedures. High-intensity focused electromagnetism is utilized in MS treatment to activate the PFM motor neuron, resulting in longer, supramaximal contractions and the activation of more muscle fibers, which are comparable to 12,000 regular contractions with Kegel pelvic floor exercises. DR ARNOLD (DEKA M.E.L.A, Florence, Italy) is a device approved by the European Commission (EC) for non-invasive top flat magnetic stimulation (TOP FMS) of the PFM to rehabilitate weak pelvic muscles and restore neuromuscular control for women with UI. Moreover, during the treatment patients remain comfortably dressed and seated under ergonomic conditions.[3]
With this study we aimed to report the results of our preliminary experience in terms of efficacy and safety on the association of PFMT and TOP FMS as combined treatment for UI in women.

MATERIALS AND METHODS

Consecutive patients who complained UI were enrolled.
Inclusion criteria included: patients with UI ≥ 18 years of age, educated enough to understand and complete the questionnaires.
Exclusion criteria included: patients with cardiac pacemakers, implanted defibrillators/neurostimulators, electronic/metal implants, pulmonary insufficiency, heart disorders, severe neurological diseases, malignant tumor, ongoing urinary or genital tract infections, pregnancy, and obesity (body weight >160 kg).
The overall treatment protocol included: 8 sessions of dr Arnold, each one for a time of 30 minutes, twice a week. Arnold chair was set on program hypotonus/weakness 1 or hypotonus/weakness 2, according to the type of urinary incontinence. After Arnold chair session, patients performed PFMT for 15 minutes and were encouraged to perform them daily, for 10 minutes, 3 times a day.
Validated questionnaires were administered at enrollment-time and at the end of the treatment period. The questionnaires included: the International Consultation on Incontinence Questionnaire-Urinary Incontinence- Short form (ICIQ-UI-SF), Female Sexual Function Index (FSFI), King's Health Questionnaire (KHQ). Patient Global Impression of Improvement (PGI-I) was used only after treatment.
To demonstrate a clinical improvement, patients' pelvic floor was evaluated before and after combined treatment using digital muscle test (DMT) with IPGH system (Incontinence, Pelvic floor prolapses, General factors, Handicap).
Efficacy of the treatment was defined by comparing the resulting scores of the questionnaires at the beginning and at the end of the study; t-test was used for statistical comparison of the means, statistical significance was set for <0.05.

RESULTS

Between March and June 2023 a total of 15 women meeting the defined criteria were referred to our pelvic unit for UI and were included in the present study.
The median (range) age was 58 (45-79) years and BMI 28.8 (from 18.9 to 32.4) kg/m^2.
14 of them (93.3%) had previous vaginal delivery, 2 (13.3%) underwent gynecological surgery.
10 (66.7%) patients were in menopausal status, 8 (53.3%) were sexually active, 15 (100 %) were affected by vaginal atrophy, 8 (53.3%) showed pelvic organ prolapse (POP <stage II) and all of them (100%) perform treatments for genital syndrome of menopause (GSM).
The patients complained different type of urinary incontinence: 7 (46,7%) patients had mixed urinary incontinence (MUI), two of them in antimuscarinic therapy. 8 (53.3%) were affected by stress urinary incontinence (SUI).
DMT was assessed at baseline (t0) and at the end of the treatment protocol (t1): a significant improvement in terms of DMT was found, namely endurance: 1 (range 0-2) vs 2 (range 1-2), p<0.002 and repetitions: 1 (range 0-1) to 2 (range 0-2); p=0.02.
A significant difference was recorded also for the ICIQ-UI-SF median scores: 16 (range 2-21) vs 10 (range 1-17); p<0.0002, and the domains of the KHQ.
KHQ: general health perception 38.3±18.6 vs 26.7±17.6 (p=0.02); incontinence impact 60.0±31.4 vs 24.4±19.8 (p=0.0005); role limitation 40.0±36.1 vs 18.9±16.5 (p=0.006); physical limitation 54.5±34.2 vs 27.8±22.4 (p= 0.02);

social limitation 37.8±34.0 vs 8.5±11.7 (p=0.005); emotions 45.2±41.9 vs 12.6±26.5 (p=0.004); severity measures 44.4±28.8 vs 20.6±18.1 (p=0.003); symptoms severity 8.8±5.5 vs 5.1±3.4 (p=0.0002).
The PGI, administred only at the end of the treatments, had a median score of 3 (range 2-4).
No complications or side effected were recorded during the study period.

INTERPRETATION OF RESULTS

After combined treatment DMT showed an improvement in endurance and repetitions. A significant benefit was reported at ICIQ-UI-SF (p=0.0002) while it was not significant for FSFI (p=0.2). An improvement was recorded for almost all the domains of the KHQ, including general health perception, incontinence impact, role, physical and social limitations, emotions, severity measures and symptoms severity. The median patients' perception of improvement was 3 at PGI-I test ("a little better") with a range from 2 to 4.

CONCLUSIONS

In these patients, the association of PFMT and TOP FMS has proven to be safe and effective to reduce urinary incontinence symptoms. Therefore, the association of treatments is promising, but further studies are needed, with larger case series for further validation.

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16 - EFFICACY OF FRACTIONAL CO2 LASER TREATMENT FOR GENITOURINARY SYNDROME OF MENOPAUSE IN LONG-TERM EVALUATION-PRELIMINARY STUDY

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INTRODUCTION AND AIM OF THE STUDY

The postmenopausal state covers 40% of modern women's lives and 50–70% of postmenopausal women report GSM symptoms such as vaginal dryness, itching, frequent inflammations, lack of elasticity, or dyspareunia. Consequently, a safe and effective method of treatment is crucial. (1,2)
The aim was to evaluate the long term (up to 12 months after the last procedure) clinical effectiveness of fractional CO_2 laser in the treatment of GSM symptoms using a protocol of three procedures in 6-week intervals.

MATERIALS AND METHODS

In a group of 125 patients, a prospective observational study was performed, where the vaginal pH, VHIS, VMI, FSFI, and treatment satisfaction questionnaire were used, to evaluate the efficacy of the procedure.

RESULTS

The fractional CO_2 laser treatment was effective in improving all the objective forms of evaluation: vaginal pH (from 5.61 ± 0.50 at the baseline up to 5.21 ± 0.35 in 12 months follow-up with top value: 4.69±0.21 in the 6-week follow-up); VHIS (12.02 ± 1.89 at the baseline vs. 15.01 ± 2.34 (12 months) and 21.50 ± 1.76 (6 weeks)); VMI (21.5 ± 5.66 vs.27.1 ± 4.74 (12 months) and 48.4 ± 4.46 (6 weeks)). Similar results were obtained for FSFI: 12.79 ± 5.351 vs. 18.42 ± 2.52 (12 months) and 24.39 ± 2.733 (6 weeks), where 79.77% of patients were highly satisfied.

INTERPRETATION OF RESULTS

The positive effect was confirmed by both objective and subjective forms of evaluating GSM symptom severity. The results in 12 months follow up were still statistically and clinically significant, with the top value in 6 weeks after the last procedure follow up.

CONCLUSIONS

Fractional CO_2 laser therapy increases the quality of life by having a beneficial effect on the sexual function of women with GSM symptoms in 12 months follow up.

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17 - PATIENT SATISFACTION RATES IN THE MID- AND LONG-TERM FOLLOW-UP OF WOMEN AFTER MID-URETHRAL SLING SURGERY: EVALUATION OF ALL OUTCOME MEASURES

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INTRODUCTION AND AIM OF THE STUDY

Mid-urethral sling (MUS) surgeries are widely performed and studied anti-incontinence operations all over the world for the treatment of stress urinary incontinence (SUI). However, long-term success rates have been reported in a wide variety of ranges, from 43% to 96% (1). One of the reasons for this large discrepancy might be the lack of a standardized outcome measure for success after MUS surgery. Various postoperative outcome measures comprising both objective and subjective parameters have been reported (2). Recently, patient-oriented outcome measures have become popular as they reflect the real post-operative situation in terms of patient satisfaction and fulfilling their expectations from MUS surgery (3). Measuring success with subjective parameters like bladder diaries or standardized questionnaires or with objective parameters such as a cough stress test, pad test, or urodynamic investigation seems insufficient to reveal if the patients met their expectations from the surgery or not. Hence, patient-reported outcome measures have been highly recommended in recent years (3). In fact, patients' self-evaluations resemble the real success of the reconstruction, which means the rate of balance between the cure of the stress urinary incontinence and the probable adverse events. Therefore, an ideal follow-up study after MUS procedures should compromise all three outcomes (objective, subjective, and patient-reported). The goal of this prospective longitudinal study is to report the follow-up results on the patients' mid- to long-term surgical outcomes who underwent MUS surgery. Using all subjective and objective outcome parameters mentioned above, we aimed to determine the concordance of success rates based on all commonly used criteria in previous trials and to compare these outcomes in satisfied and dissatisfied patients according to the validated and most practical patient-reported outcome measure of satisfaction tool, the Patient Global Impression of Improvement (PGI-I) scale.

MATERIALS AND METHODS

An observational follow-up study was conducted on 58 women who underwent MUS surgery at least one year before and attended regular follow-up visits between January 2018 and April 2019. Exclusion criteria for the study were: 1) History of retreatment for incontinence after index surgery; 2) Follow-up time of less than 1 year. All patients were evaluated with the same protocol. Clinical examination, validated questionnaires, including the short form of the Pelvic Floor Distress Inventory, the short form of the Incontinence Impact Questionnaire, the 8-item Overactive Bladder Questionnaire, the short form of the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PFDI-20, IIQ-7, OAB-V8, and PISQ-12), and single voiding cycle ambulatory urodynamic monitoring (AUM) were completed in all patients. Patient satisfaction after surgery was measured with both the Patient Global Impression of Improvement and the visual analog scale (VAS), with a range of 0 to 10 points (higher points indicating greater satisfaction). Women were considered satisfied after MUS surgery if they answered "very much better" or "much better" on the PGI-I scale or marked 8 points or more on the VAS scale with a question of "Have your expectations before surgery met afterwards?". Subsequently, patients were further classified into satisfied and dissatisfied groups according to their PGI-I score. The clinical findings, scores of symptom bother and quality of life questionnaires, and AUM parameters were compared among groups. Student's t-test, Mann-Whitney U test, and Chi-square test were used, where appropriate; $p<0.05$ was considered statistically significant.

RESULTS

The mean age of the women who took part in the study was 53.6 ± 9.1 years, and the mean BMI value was 30.2 ± 4.6 kg/m2. Most of the participants (65.5%) were postmenopausal. The trans-obturator route was preferred in 41 patients (70.6%), and the retropubic route was preferred in 17 (29.4%) patients. In addition to MUS surgery, 67.2% of the patients had concomitant gynecological surgery (n = 39). The most commonly performed surgery with MUS was hysterectomy in 20 (vaginal hysterectomy; 10; and total abdominal hysterectomy; 10) women (34.5%). The mean follow-up time after surgery was 5.55 ± 2,5 years.

Evaluation of the women revealed a 65.5% negative cough stress test, 38.8% negative 1-hour pad test (<1 gram), 36% lack of all-type urodynamic incontinence, 40.4% lack of all-type incontinence in 3-day bladder diaries, and 50% lack of incontinence complaints at the time of admission, all of which were used to measure success with dryness rate. On the other hand, the satisfaction rate according to the PGI-I scale was 44.8% (n = 26). In the dissatisfied group, 84.4% (n = 27) had mid-urethral sling surgery with the trans-obturator route. During the admission, a significantly higher percentage of the dissatisfied patient suffered from incontinence Despite this, the presence of incontinence on the 3-day bladder diary was comparable between groups. Dissatisfied patients showed significantly higher symptom burden on the validated questionnaires. On the comparisons of objective outcome parameters, groups were comparable in terms of the positive cough stress test rate, but the positive pad test rate was significantly higher in the dissatisfied group. During single-voiding cycle AUM, both groups had incontinence episodes, but dissatisfied patients had significantly more (Table 1).

INTERPRETATION OF RESULTS

Nearly half of the women were satisfied with MUS surgery in the mid- to long-term. Dissatisfied patients did not only suffer from symptoms associated with SUI; they also suffered from irritative symptoms and pelvic floor dysfunction. Incontinence complaints at admission seem to reflect satisfaction status better than a 3-day bladder diary. The positive cough stress test rate did not differ significantly, but other objective outcome measures, such as the pad test and the presence of incontinence episodes on AUM, significantly differed between the groups.

CONCLUSIONS

The persistence of incontinence and the presence of complaints of pelvic floor dysfunction have a negative impact on patient satisfaction after MUS surgery. Practical measures of patient-reported outcomes with PGI-I and/or VAS seem to better reveal the mid- to long-term multidimensional success rate of MUS rather than the commonly reported specific screenings such as cough stress test or 3-day bladder diaries. Patient satisfaction after MUS, which is measured by both PGI-I and VAS, seems sufficient and more efficacious as a screening tool for the presence of any adverse situation regarding MUS surgery. Hence, even for the mid- to long-term follow-up of women after MUS surgery, PGI-I is an easy-to-apply tool, showing the patient's actual status in a multidimensional way.

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Table 1. Comparison of the outcome measures between satisfied and dissatisfied women after MUS surgery

Outcome Measures	**Satisfied* (n=26)**	**Dissatisfied (n=32)**	***p***	**Type of Success**
Absence of incontinence on the admission, n (%)	18 (69.3)	11 (34.4)	***0.008***	Subjective
Absence of incontinence on the bladder diary, n (%)	18 (69.3)	17 (51.7)	0.193	Subjective
PFDI-20, median (min-max)	80 (6-254)	181.5 (36-275)	***<0.001***	Subjective
UDI-6, median (min-max)	25 (0-100)	58.3 (12.5-100)	***0.001***	Subjective
UDI-6 Stress subscale median (min-max)	31.2 (0-100)	87.5 (0-100)	***0.006***	Subjective
UDI-6 Irritative subscale, median (min-max)	18.7 (0-100)	75 (0-100)	***0.004***	Subjective
IIQ-7, median (min-max)	7 (0-57)	30 (0-64)	***0.049***	Subjective
Negative cough stress test, n (%)	18 (69.3)	21 (63.3)	0.717	Objective
Negative pad test, n (%)	18 (69.3)	10 (31.3)	***0.011***	Objective
Absence of incontinence on AUM, n (%)	15 (57.1)	7 (20.7)	***0.008***	Objective
Presence of detrusor over-activity, n (%)	8 (29)	15 (46.8)	0.324	Objective
Post-void residual urine (ml), median (min-max)	42.5 (10-230)	60 (10-85)	0.351	Objective
VAS score, median	9 (5-10)	5 (0-10)	***0.001***	Patient-reported

AUM: Ambulatory urodynamic monitoring, IIQ: Incontinence Impact Questionnaire, PFDI: Pelvic Floor Distress Inventory, UDI: Urinary Distress Inventory, VAS: Visual analog scale. *******Women who answered "very much better" or "much better" on the PGI-I scale.*

18 - INTRAVAGINAL PRASTERONE FOR URGENCY IN POSTMENOPAUSAL WOMEN WITHOUT URODYNAMIC DETRUSOR OVERACTIVITY: A PILOT STUDY

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INTRODUCTION AND AIM OF THE STUDY

To report the effects on the urinary function of prasterone prescribed for vulvovaginal atrophy (VVA) in patients with overactive bladder (OAB) symptoms without detrusor overactivity at urodynamics.

MATERIALS AND METHODS

15 patients with genitourinary syndrome of menopause and anamnestic diagnosis of OAB underwent urodynamics. All patients experienced urgency and increased urinary frequency daily, but none demonstrated detrusor overactivity as the pathophysiological basis of their symptomatology. [1]
Exclusion criteria were: contraindications to HRT, recurrent UTI, pelvic organ prolapse stage II or superior, organic urological pathologies, previous surgery, or radiotherapy on the pelvic compartment.
Patients received prasterone 6.5 mg daily for 12 weeks because of concomitant VVA. [2, 3]
We performed a complete anamnesis, clinical examination, a 3-day voiding diary, ultrasound examination of bladder wall thickness (BWT), and evaluation by Visual Analogic Scale (VAS) of vaginal dryness at baseline and 12 weeks. We evaluated urinary symptoms and their impact on the quality of life with UDI-6 SF and OAB-Q (Qol, sf) questionnaires.

RESULTS

The mean age of the population was 65 (+/- 1,75). No patient discontinued the treatment, and no side effect was reported. After 12 weeks of daily prasterone, we observed a significant reduction in the daily (24 h) number of micturition episodes, nocturia, and urgency. We also found a significant reduction in vaginal dryness (VAS evaluation) and an improvement in OAB-Q and UDI6 SF scores (Table1).

INTERPRETATION OF RESULTS AND CONCLUSIONS

In order to find a treatment strategy of the OAB syndrome that could be tailored to individual patient characteristics, prasterone might be a useful option for postmenopausal women with VVA and symptoms of OAB without detrusor overactivity as the pathophysiological basis.

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Table1

	AT BASELINE	AFTER TREATMENT	p
FREQUENCY	10 (+/- 0,704)	7,2 (+/- 0,725)	0,001
INCONTINENCE	13 (81,3%)	7 (43.8%)	0,07
NOCTURIA	2,93 (+/- 0,74)	2,07 (+/- 0,679)	0,006
UDI	55 (+/- 5,867)	32,22 (+/- 6,358)	0,001
SCORE OAB-q SF	60 (+/- 5,325)	38,44 (+/- 6,398)	0,004
SCORE OAB-q SF-QoL 1	56,1 (+/- 5,565)	69,33 (+/- 5,929)	0,03
VAS	5 (+/- 0,878)	2,73 (+/- 0,665)	0,003

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

19 - FEMALE SEXUAL DYSFUNCTION AND HYPERTENSION IN POSTMENOPAUSAL WOMEN: PRELIMINARY RESULTS FROM AN ONGOING STUDY.

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INTRODUCTION AND AIM OF THE STUDY

Sexual dysfunction encompasses various factors pertaining to women throughout their adult lifespan, with a particular emphasis on the postmenopausal phase. Approximately 40% and 85% of women in the reproductive and postmenopausal stages respectively, experience sexual disorders globally.(1) Over the past decade, notable advancements have been observed in the delineation and categorization of female sexual dysfunction (FSD). The main cases of female sexual dysfunction can be divided into low desire, diminished arousal, inability and difficulty achieving orgasm, and pain during intercourse. Normal sexual function in women is based on a harmony coordination of emotional and physical wellbeing. The intricate interplay may be affected by both structural and functional decline, thereby complicating the diagnosis and management of female sexual dysfunction.(2) However, it is widely recognized that FSD has a negative impact on an individual's quality of life. Therefore, healthcare professionals should be mindful of assessing this condition. Despite the higher prevalence of FSD in comparison to males, there is still a lack of available data.

Sexual dysfunction among hypertensive females is a neglected issue, with certain data indicating a prevalence rate of 42.1%.(3) While limited research is available, there is currently no conclusive evidence to establish a definitive correlation between hypertension and FSD. Reduced blood flow to the clitoris has been shown to impair sexual functions in studies on the clitoris' role in female sexuality. In this context, the utilization of Doppler ultrasonography for assessing the clitoral artery could potentially be beneficial in the diagnosis of vascular insufficiency leading to vasculogenic FSD. Currently, there is a lack of research exploring the potential association between FSD, blood flow in the clitoral artery, vaginal atrophy, and hypertension. This is an ongoing prospective cross-sectional study aiming to investigate potential association between FSD and hypertension in postmenopausal women by employing clitoris artery doppler indices and cytology vaginal epithelium.

MATERIALS AND METHODS

The study included sexually active postmenopausal women who were referred to the outpatient clinic of the 1st Obstetric and Gynecologist Clinic, Aristotle University of Thessaloniki, Greece. Exclusion criteria were women with multiple sclerosis, previous spiral cord injury, any type of active malignant disease, and not signed informed consent. Following the completion of the consent form, participants proceeded to undergo a comprehensive medical evaluation, which included clinical assessments, laboratory tests, ultrasound examinations, and the completion of validated questionnaires. In addition, demographics, comorbidities, and medical therapy was recorded. A meticulous clinical examination was performed, including assessments of blood pressure, vital signs, anthropometric measurements, bimanual vaginal examination, Pelvic organ prolapse organ measurement (POP-Q), and vaginal and perineal sensitivity. In addition, on the day of the visit, we utilized the following questionnaires: FSFI, Beck Depression Inventory -2 (BDI-F), SQOL-F, ICIQ, ICIQ-FLUTS, and ICIQ-VS. Also, all participants underwent cytologic test of vaginal epithelium for determination of level of vaginal atrophy. Furthermore, the patient's clitoral atherosclerosis was assessed using ultrasound doppler parameters, specifically by measuring the pulsatility index (PI) and resistance index (RI) of the clitoral artery. A sample of 100 menopausal women (50 normotensive and 50 hypertensive) was calculated as necessary to identify a difference of 3.0 units in the FSFI score with α error 0.05 and 80% power. Statistics were performed using Microsoft EXCEL.

RESULTS

Up to this time-point, 65 Caucasian women (32 hypertensive subjects and 33 normotensive controls) were eligible for and participated in the study. They had a mean age of 62.5±5.2 and were in menopause for 12.4±6.8 years; their BMI was 29.9±3.4; their mean arterial pressure (MAP) was 99.4±25.2; and their FSFI score was 20.6±6.6. When comparing normotensive with hypertensive patients, there was no statistically significant difference observed in the mean age, BMI, parity, and years in menopause. Regarding blood tests, there were no significant pathological findings observed in either the hypertensive or normotensive individuals. In addition, hypertensive women had higher MAP (108.1±18.6 vs 93,0±8.3), had more commonly diabetes mellitus, and dyslipidemia as compared to normotensive participants. Regarding the FSD, hypertensive individuals had statistically significant worsen sexual life than normotensive (mean FSFI score 18.7±7.5 vs 22.3±8.1 $p<0.05$, mean SQOL-F score 61.7±18.1 vs 75.03±28.2 $p<0.05$). Interestingly, hypertensive women have more impaired clitoris artery blood flow and have a decreased percentage of subjects with low vaginal atrophy than normotensive ($p=0.046$). More specific, high level of vaginal atrophy was identified in approximately 43.8% and 21.2% of hypertensive and normotensive participant, respectively. Moreover, hypertensive subgroup measured with higher clitoral artery PI (3.4±0.8 vs 3.0±1.0, $p<0.05$), suggesting higher level of clitoris artery atherosclerosis.

INTERPRETATION OF RESULTS

The field of female sexual dysfunction continues to be under-researched. The absence of thorough research can be attributed to various factors, including emotional, gynecological, psychological disorders, as well as the process of aging. Controlling for all of these factors is frequently challenging in research studies. Our study sought to highlight arterial hypertension as a factor in sexual dysfunction by reducing pelvic blood flow thus leading to fibrosis of the smooth muscle of the clitoris and the vaginal wall.

CONCLUSIONS

In conclusion, this study suggests that hypertensive postmenopausal women appear to have a higher incidence of FSD, which is associated with worsening vaginal atrophy and clitoral artery atherosclerosis. This might be an entirely novel pathogenetic factor that contributes to the higher prevalence of FSD in postmenopausal hypertensive women. More research is required to confirm this correlation.

Table 1

Hyper vs Normotensive and sexual function results					
Demographics		**Total**	**Hypertensive**	**Normotensive**	**p**
Total Number of patients, N		65	32	33	-
Mean age, years		62.5±5.2	62.48±5.55	62.54±6.14	0.975
Mean BMI, kg/m^2		29.89±3.35	30.04±6.02	29.75±3.96	0.799
Years in menopause		12.45±6.81	12.97±5.45	11.97±6.55	0.576
Parity, N		2.17±1.15	2.16±0.69	2.18±0.92	0.942
Sexual function		**Total**	**Hypertensive**	**Normotensive**	**p**
FSFI	Total	20.60±6.57	18.71±7.47	22.27±8.11	**0.048†**
	Desire	2.79±1.37	2.45±1.22	3.15±1.34	**0.031†**
	Arousal	3.15±1.21	3.00±1.31	3.28±1.67	0.435
	Lubrication	3.46±1.11	3.09±1.64	3.77±1.43	**0.049†**
	Orgasm	3.50±1.43	3.00±1.81	3.97±1.59	**0.012†**
	Satisfaction	3.98±1.44	3.88±0.69	4.04±1.59	0.629
	Pain	3.98±1.07	3.81±1.20	4.06±1.44	**0.048†**
SQOL-F		68.73±26.58	61.74±18.14	75.30±28.17	**0.018†**
Clitoris artery atherosclerosis		**Total**	**Hypertensive**	**Normotensive**	**p**
PI		3.17±0.92	3.39±0.78	2.97±0.97	**0.043†**
RI		1.03±0.26	1.03±0.34	1.04±0.34	0.902
Vaginal atrophy level		**Total**	**Hypertensive**	**Normotensive**	**p**
Low		15/65 (23.1%)	4/32 (12.5%)	11/33 (33.3%)	**0.046†**
Moderate		29/65 (44.6%)	14/32 (43.8%)	15/33 (45.4%)	0.890
High		21/65 (32.3%)	14/32 (43.8%)	7/33 (21.2%)	0.052

†: statistically significant

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20 - INTRA-OPERATIVE FACTORS ASSOCIATED WITH COMPLICATIONS OF VAGINAL HYSTERECTOMY IN PATIENTS WITH PELVIC ORGAN PROLAPSE: A SINGLE CENTRE'S EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

The ongoing debate surrounding the optimal surgical approach for elective hysterectomy in cases of benign gynecological disease has prompted numerous randomized studies. Despite these efforts, the choice of surgical approach varies by time, between and within countries. In cases of benign lesions, vaginal hysterectomy (VH) is considered the preferred surgical approach for uterine removal. Furthermore, following the issuance of the NHS alert in 2018 regarding the use of mesh in pelvic organ prolapse (POP) surgery, there has been a renewed interest in vaginal hysterectomy and the utilization of native tissue reconstruction techniques.

We all know the advantages of VH over abdominal approach, but even the comparison with laparoscopic approach offers at the same time short hospital stays, quick recovery and reduced ureteral complications. However, VH is not without its own risks, such as bladder lesions, delayed catheter removal, infections and vaginal dome hematomas. The aim of this study is to investigate the association between specific surgical procedures, such as colposuspension sec. McCall versus modified McCall or single versus double cystopexy, and the development of complications in patients with uterine prolapse undergoing vaginal hysterectomy (VH) .

MATERIALS AND METHODS

This study included a comprehensive analysis of all patients who underwent vaginal hysterectomy (VH) and fascial plicationfor uterine prolapse at our center between January and December 2022. The severity of uterine prolapse was assessed using the POP-Q (Pelvic Organ Prolapse Quantification) system, and only patients with third or fourth stage prolapse were selected for inclusion in the study. For every patient, a comprehensive morbidity assessment form was created to document preoperative risk factors, surgical procedures, complications, and follow-up visits conducted within a 30-day period following surgery. This form served as a structured tool to capture and record relevant information for each individual participant in our study.

This study aim to assess the 30-day postoperative morbidity as the primary outcome, encompassing infectious complications, adjacent organ injury and non-infectious complications. Additionally, the secondary outcome measure evaluates the adherence to ERAS (Enhanced Recovery After Surgery) guidelines regarding the timely removal of catheters. The statistical analysis involved the comparison of categorical variables, such as different surgical techniques, using the $\chi 2$ test. A significance level of $P<0.05$ for two-tailed tests indicated statistically significant differences. No correction was applied for preoperative risk factors due to the small sample size, which would have rendered the data statistically insignificant.

RESULTS

A total of 75 women were included in this study, with 51 undergoing McCall colposuspension, 20 undergoing modified McCall colposuspension, and 4 undergoing other types of colposuspension. Regarding cystopexy, 43 women underwent single cystopexy, 17 double cystopexy, and 15 no cystopexy.

In our data, a total of 10 cases (13.3%) experienced peri-operative complications. Specifically, abdominal viscera lesions were observed in 3 patients (4%) during the surgical procedure. Of these cases, two involved the bladder, while one involved the colon serosa. Infectious complications were reported in 1 patient (1.3%), necessitating antibiotic treatment during the postoperative phase. Additionally, 6 patients experienced non-infectious complications, including 4 vaginal dome hematoma and 2 cases of paresthesias.

Regarding the delayed removal of the bladder catheter with respect to the provisions of the ERAS guidelines, our investigation revealed that 5 patients experienced such delay, among whom two had bladder lesions during surgery. Only one patient required long-term self-catheterization for 6 days.

We therefore looked for a possible association between the different surgical techniques and the complications: our findings did not reveal any statistically significant differences between single versus double cystopexy, nor between McCall colposuspension versus modified McCall colposuspension or other colposuspension procedures ($p>0.05$). Similarly, no statistically significant differences were observed when examining the delayed removal of the catheter. However, it is worth noting that the modified McCall colposuspension showed a higher likelihood of being associated with this event ($p=0.07$, with 80% of delayed removal cases).

INTERPRETATION OF RESULTS

In our study, we observed a 13.3% incidence of complications, which is consistent with the reported literature rate of 12.5%. Contrary to our expectations, double cystopexy, performed in more severe anterior colpocele cases, did not

demonstrate a higher occurrence of bladder lesions or delayed catheter removal. This data is coherent with what is reported in the literature. Similarly, our data did not reveal any significant differences in complications among the different types of colposuspension, aligning with the existing literature. However, the lack of statistical significance in delayed catheter removal regarding modified McCall colposuspension may be attributed to the small size of our sample. For the same reason it was not feasible to adjust the data for the preoperative risk factors.

CONCLUSIONS

Our research findings indicate that vaginal surgery combined with native tissue repair represents a secure surgical approach for addressing pelvic organ prolapse. In fact, the incidence of complications is consistent with what has been previously reported in the literature. Additionally, our study highlights that the early removal of the bladder catheter, as recommended by the ERAS guidelines, is generally feasible for the majority of patients. However, it is important to note that we were unable to establish a direct correlation between a specific surgical technique and peri-operative complications. This lack of correlation may be attributed to the possibility that no single technique outperforms another, as well as the limited sample size. Moving forward, it would be valuable to include a larger sample size in future studies to achieve enhanced statistical significance.

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21 - IS AN OTIS PROCEDURE OFTEN OVERLOOKED?

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INTRODUCTION AND AIM OF THE STUDY

Female urethral stricture is considered to be a rare condition, with no fixed definition. It has been estimated that bladder outflow obstruction accounts for between 2.7–8% of women with lower urinary tract symptoms; of these women, urethral stricture is thought to account for between 4–18% (1). It can cause significantly bothersome lower urinary tract symptoms. Historically, urethral dilation has been the mainstay for treatment for these patients, thought to have a mean success rate of 47% at a mean follow-up of 43 months (2).
OTIS urethrotome is an alternative surgical procedure which has been described for urethral stricture management, where the urethra is dilated and incised internally with a blade. The most common complication is stricture recurrence (3).
We aim to present the surgical outcomes for OTIS urethrtome over a 10 year period.

MATERIALS AND METHODS

This is a retrospective case series over 10 years (2008-2018) of women diagnosed with a presumed idiopathic urethral stricture: low maximum flow rate (Qmax) associated with raised detrusor pressure at maximum flow (PdetQmax) and raised maximum urethral closure pressure (MUCP) on urethral pressure profilometry, who then underwent an OTIS urethrotome procedure.

RESULTS

A total of 18 women were identified. The mean age was 46.1 years (SD 11.5) with a median number of 1 prior deliveries. They were of mixed ethnicity: 50% Caucasian, 22% Black African. The most common presenting symptoms were recurrent urinary tract infections with incomplete emptying (47%) and overactive blader symptoms (42%). Symptoms had been present from anywhere between 3 months to 15 years prior to presentation. 9/18 were performing clean intermittent self-catheterisation (CISC) prior to the procedure due to high post void residual volumes (PVR). 61% had a previous urethral dilatation procedure.
All the OTIS urethrotome procedures were performed as a day-case apart from 1 which was performed alongside a hysterectomy; all had a catheter in situ for 14 days post procedure. There were no intra-operative complications and only 1 immediate post operative complication of acute UTI with associated urethral pain.
Post-procedure, there was a significant reduction in mean PVR (181.7ml vs 77.8ml, $P<0.05$) and mean MUCP (106.1 cmH2O vs 72.8 cmH2O, $P=0.004$).
Follow up was for an average of 5.6 years (SD 5.4). All women were recommended to perform weekly CISC to maintain patency. 15/18 (83%) had initial resolution of their symptoms: 10/18 (56%) had long-term cure, 5/18 (28%) went on to have recurrence of their symptoms (3 had a repeat OTIS, 1 had a repeat urethral dilatation and 1 was referred for further surgical management). Only 3/18 had persisting symptoms immediately after their procedure.

INTERPRETATION OF RESULTS

The OTIS urethrotome procedure is a relatively minor procedure, performed as a day-case, safe with a very low complication rate, and effective, demonstrated by 83% having initial symptom resolution.

CONCLUSIONS

OTIS urethrotome is a safe and effective procedure, which should be considered second line after urethral dilatation prior to more invasive surgical management for idiopathic female urethral strictures.

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22 - PELVIC FLOOR DYSFUNCTION IN SWISS FEMALE ELITE ATHLETES: RESULTS OF A CROSS-SECTIONAL SURVEY

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INTRODUCTION AND AIM OF THE STUDY

The impact of pelvic floor dysfunction (PFD) on athletes is of increasing interest. The Swiss National Olympic Committee (Swiss Olympic) performed a survey among female elite athletes to identify the needs for action in the field of 'women and high performance sport' including PFD.

MATERIALS AND METHODS

1'092 Swiss female elite athletes from 107 different sports were asked to take part in a cross-sectional study and answer an online questionnaire in 2021. This self-designed questionnaire covered the following topics: menstrual cycle, pelvic floor, contraception, pregnancy, nutrition and injuries. The authors conducted descriptive statistics to determine location parameters and create frequency tables. Logistic regression was used to analyse group differences according to sport and subject characteristics (e.g. training hours, sports experience, lean versus non-lean sports).

RESULTS

408 (37.4%) athletes from 92 different sports completed the online questionnaire. The median age was 23years. Of the included athletes 18.5% (n=75) reported to have urinary incontinence, that occur in 80% (n=60) during specific sports activity, in 41.3% (n=31) when coughing and in 18.6% (n=14) due to urgency urinary incontinence (UUI).

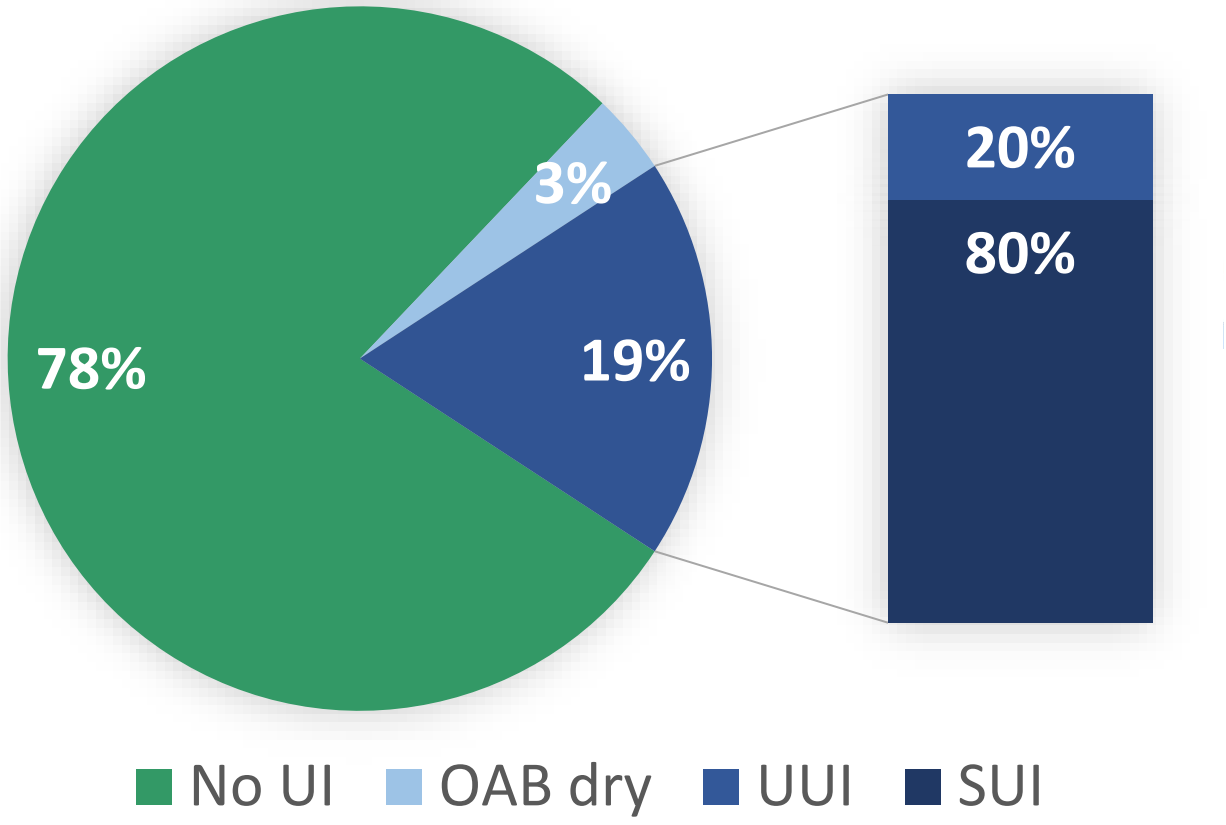

Figure 1

Regarding other symptoms of PFD, 58.3% (n=236) of female athletes suffered from dysmenorrhea, 37% (n=150) from pelvic pain and 14.8% (n=60) reported dyspareunia.

43.6% (n=178) athletes participated in lean sports, where low body weight might have a positive effect on athletic performance. There was no correlation between any of the PFD symptoms and lean sports, training time, sport experience, weight or BMI. Overall, 22.1% have talked with a medical doctor about their problem, 10.3% have undergone therapy.

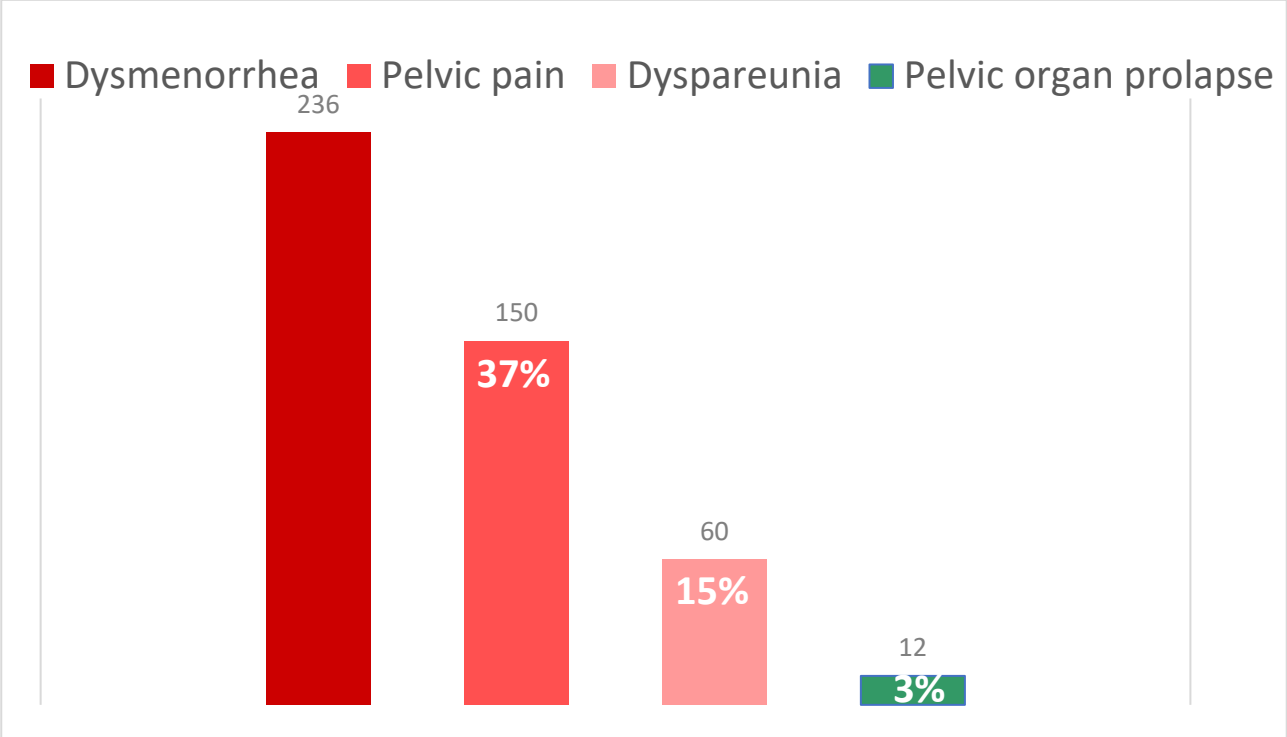

Figure 2

INTERPRETATION OF RESULTS

The female elite athletes surveyed showed an increased prevalence of PFD symptoms, despite the young population. Physical activity that involves intra-abdominal pressure can overload the urethral sphincter and pelvic floor muscles. If the pelvic floor generates too much or too little tension, this can lead to unwanted symptoms such as urinary incontinence or pain.

CONCLUSIONS

Swiss female elite athletes often struggle with PFD: stress urinary incontinence, pelvic pain and dysmenorrhea are common disruptive factors. The results of this survey show the need for action in the field of sport and gynaecology and underline the importance of specialized gynaecological care for female elite athletes. Further research including standardized questionnaires or interviews is needed to improve knowledge about the impact of PFD in athletes' sporting activities and their daily life's.

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23 - BLADDER NECK DISPLACEMENT DURING ABDOMINAL AND PELVIC FLOOR EXERCISES ASSESSED BY TRANSPERINEAL ULTRASOUND IMAGING.

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INTRODUCTION AND AIM OF THE STUDY

Postpartum women show important changes in the urethral support system at least 6 months after delivery, and changes in the abdominal wall [1,2]. So, both pelvic and abdominal alterations should be considered to prescribe an effective rehabilitative program of exercises at postnatal period. The aim of this study was to investigate the immediate effect of three pelvic floor muscles (PFM) and abdominal muscles (AM) exercises on the displacement of bladder neck (BN), differentiating between parous and nulliparous women using transperineal ultrasound (TPU).

MATERIALS AND METHODS

In this cross-sectional study, 13 postpartum and 18 nulliparous women participated. The protocol involved three PFM and AM exercises: Submaximal PFM + Deep AM exercise, PFM + Deep A+ axial spine elongation exercise, and Curl-up exercise (Figure 1).

Figure 1: protocol of three PFM and AM exercises: 1) Submaximal PFM + Deep AM, 2) PFM + Deep AM + axial elongation, and 3) Curl-up exercise.

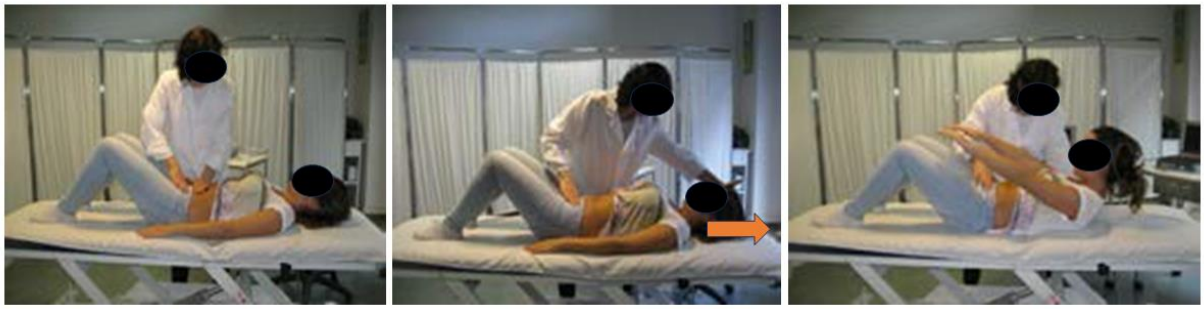
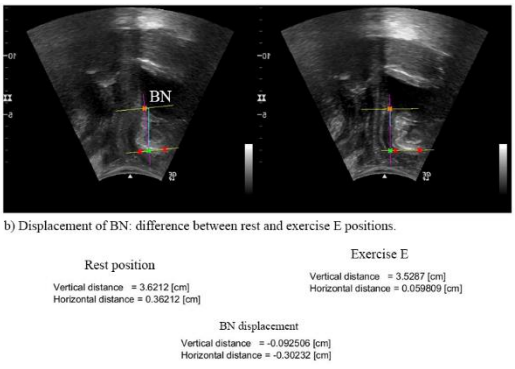
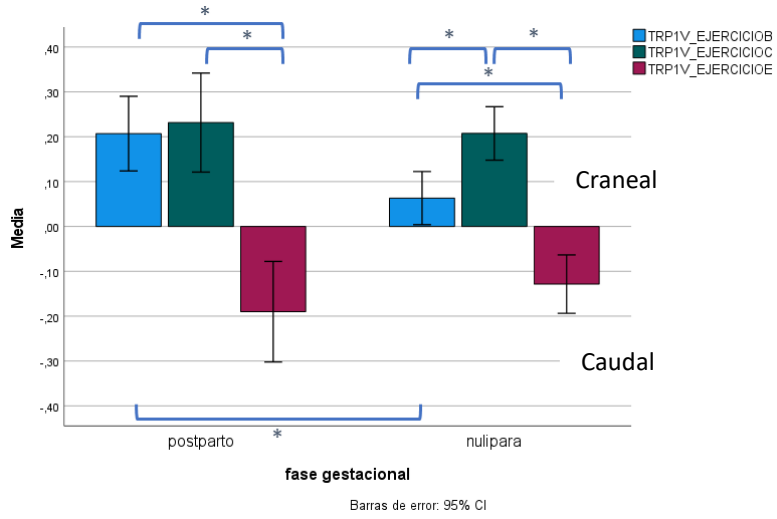


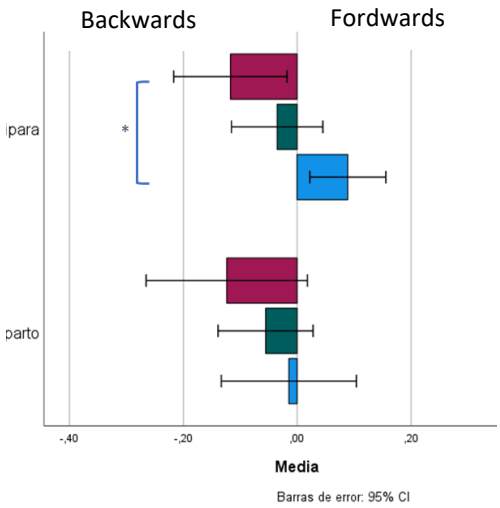
Figure 2: TPU to measure the BN displacement. The displacement represents the difference from rest to the position during the exercise.



Two-dimensional TPU was performed by placing a 3.5 MHz curved linear probe on the perineum in the sagittal plane. The vertical and horizontal displacements of BN were assessed using the standardized method described by Henemann et al 2014[3] (Figure 2). A Graphical User Interface on MATLAB software has been developed for aiding in measurement process (Figure 2). A repeated measures two-way ANOVA and Bonferroni adjustments was used to compare the differences of the displacement of BN among exercises, and between groups. Means with 95% CI are reported.

Figure 2: Mean of a) vertical and b) horizontal displacements (cm) of BN during Submaximal PFM + Deep AM exercise, PFM + Deep AM + axial spine elongation exercise, and Curl-up exercise. The error bars represent the 95% CI. Significant differences in displacements between groups (nulliparous vs postpartum) and between exercises are marked (*).





RESULTS: The BN was elevated during Submaximal PFM + deep AM and PFM + self-elongation, while descended during curl-up exercise in both groups. showing statistical differences among elevating and descending exercises in both groups (P<0.01). No statistical differences were found among the 3 exercises in horizontal displacement of BN in postpartum group, meanwhile BN was displaced significantly forwards during Submaximal PFM exercise in nulliparous comparing to postpartum women.

INTERPRETATION OF RESULTS: Findings demonstrated which exercises might be safe and appropriate and which one might be avoided due to a high descent of BN in postpartum. Further research is required to determine the as the long-term effect of those exercises in the position of BN.

CONCLUSIONS

Exercises recruiting submaximal PFM and deep AM led to an elevating effect on BN, meanwhile PFM and superficial AM contractions descended BN in postpartum and nulliparous women.

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24 - HOW SICKENING IS RESIDUAL URINE IN WOMEN?

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INTRODUCTION

Urinary retention, namely a high post-void residual volume (PVR), is one of the most prevalent urogynecological conditions.
Although in common medical practice PVR of more than 100ml is likely to be drained, there is a paucity data answering the question what kind of pathogenicity an elevated PVR in women causes.
Aim of the current study is to evaluate women with the clinical presentation of PVR, the acceptability and effect of current drainage solutions and – consecutively – the effect of drainage on clinical symptoms.

MATERIALS AND METHODS

This a single-center prospective study. Data were collected from women with PVR>100ml immediately after micturition between January 2020 and December 2022. We involved all women who consulted our clinic with various urogynaecological symptoms. Demographic data, menopause status and HRT status were assessed. Visual analogue scale (VAS) from 0 to 10 was performed asking the patients about the bother of symptoms. Methods of drainage, development of symptoms and VAS was determined before therapy and six months after.

RESULTS

A total of 239 patients, aged 23 to 92 years were recruited, with a mean age of 61.2 years. Residual urine level ranged from 170ml to 2310ml. The study revealed that 57% of the patients had urinary tract infection (UTI) as their main symptom. Fifteen percent suffered from overactive bladder (OAB) and only 4% demonstrated stress urinary incontinence (SUI). Mixed urinary incontinence was found in 23% of women. Only 9% of patients responded to drug treatment. Intermittent self-catheterization (ISC) was used to drain PVR in 89% of patients. Eleven percent had a significant improvement, while in women under 60 years, this improvement was only 4%. VAS developed from mean of 7,2 to a mean of 1,7 showing significant improvement of symptoms during drainage.

CONCLUSIONS

Significant residual urine may indeed cause recurrent urinary tract infections, OAB and stress urinary incontinence causing significant burden of disease in women. Intermittent clean self-catherization and other forms of drainage may improve the symptoms and the burden of bother; however, in elderly patients residual urine overall may remain an issue not resolving after drainage.

25 - THE POLYDIMETHYLSILOXANE URETHRAL INJECTION (MACROPLASTIQUE) TREATMENT FOR STRESS URINARY INCONTINENCE AND SEXUAL FUNCTION

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INTRODUCTION AND AIM OF THE STUDY

The aim of this study is to evaluate how the treatment with urethral injection of polydimethylsiloxane (Macroplastique®) influences the sexual function in women affected by stress urinary incontinence(SUI).
SUI has been proved to negatively affect women's quality of life, including the sexual function (1): in some patients urinary leakage leads to vulvovaginal chronic irritation and to dyspareunia, in others it causes a reduction in self-esteem, sexual desire and satisfaction.
SUI is the most frequent type of urinary incontinence, with an overall prevalence of 48%, with a range between 29–75%, depending on age (2).
For the treatment of SUI there are many conservative and surgical techniques, which consequently improve also the sexual function. Among these, the mid-urethral slings (MUSs) implantation is considered the standard of treatment in women affected by SUI. Nevertheless, many specific complications of this procedure have been reported, such as vaginal mucosa erosion, sensory loss and chronic pelvic pain, which can impair sexual function.
Although MUS was demonstrated to be more effective than urethral bulking agents (UBAs) injection in treating SUI, the latter has a reduced rate of complications (3). Among the UBAs, Polydimethylsiloxane (Macroplastique®, Cogentix Medical, Orangeburg, New York, NY, USA) , approved by FDA in 2006, was the first available.

MATERIALS AND METHODS

This is a single-centre prospective study. Sexually active women, who were urodinamically diagnosed with SUI, underwent urethral Macroplastique® injection.
After 6 months their sexual function was evaluated with Female Sexual Function Index (FSFI), the SUI cure rate was assessed through a negative stress test and Patient Global Impression of Improvement (PGI-I) score < 3 and peri- and postoperative complications were classified according to the Clavien–Dindo system.
Exclusion criteria were: pelvic organs prolapse >= I stage, voiding dysfunction, a post-void residual volume > 100 mL, concomitant overactive bladder symptoms (OAB), recurrent urinary tract infections, sexual inactivity or anamnesis of pelvic radiation and/or radical surgery.

RESULTS

Table 1

N= 56	
Age, years	58 (30-66)
Body mass index (BMI), kg/m^2	26.5 (23-30)
Obese (BMI>30 kg/m^2)	6 (11%)
Previous vaginal deliveries	1 (1-2)
Operative delivery (vacuum/forceps)	6 (11%)
First Desire To Void (FDTV), ml	180 (50-430)
Cistometric Capacity (CC), ml	480 (220-500)
PdetMax during filling phase, cmH2O	10.5 (3-18)
Maximum Flow (Qmax), mL/s	23 (12-58)
Intravescical Opening Pressure (I-OpenP), cmH2O	25 (9-66)
PdetMax during voiding, cmH2O	34 (14-66)
Detrusor Pressure at maximum flow (PdetQMax), cmH2O	27 (8-60)
Valsalva Leak Point Pressure (VLPP) cmH2O	64 (24-91)

Table 2

FSFI Domain	Baseline	After Surgery	P Value
Desire	2.4 (1.2-5.4)	3.6 (1.2-6)	0,02
Arousal	4.2 (0-5.4)	4.2 (0-6)	0,11
Lubrification	4.8 (0-6)	4.8 (0-6)	0,87
Orgasm	5.2 (0-6)	5.2 (1.2-6)	0,33
Satisfaction	3.2 (0.5-2)	5.2 (0-6)	0,01
Pain	4.8 (0-6)	4.8 (0-6)	0,72
Total Score	22.40 (16.60-24.80)	29.20 (24.60-34.50)	0,02

Table 1 shows the baseline characteristics of the study population.
Table 2 shows the FSFI scores (expressed as median and interquartile range) before and after the bulking agent injection.

INTERPRETATION OF RESULTS

56 patients were included in the study. After six months a statistical significant improvement was found in sexual desire, satisfaction and overall FSFI score. The objective SUI cure rate was observed in 74% of women, the subjective SUI cure rate was reported by 82% of patients.

CONCLUSIONS

The data collected for the current study demonstrate that the Macroplastique urethral injection is a safe technique effective in both treating SUI and improving sexual function.

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26 - THE EFFECT OF HIGH INTENSITY TESLA THERAPY ON PELVIC FLOOR ELECTROMYOGRAPHY

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INTRODUCTION AND AIM OF THE STUDY

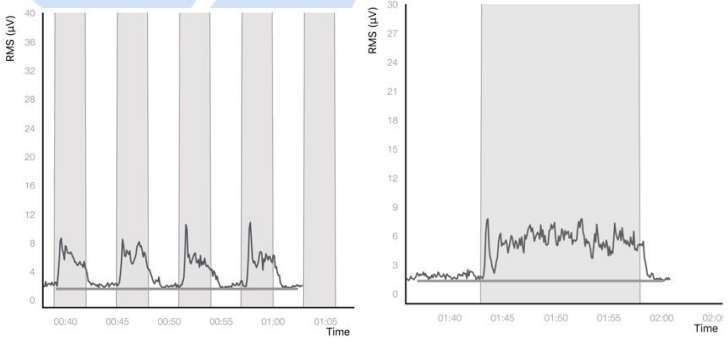
Non- invasive, extracorporeal treatments such as high-intensity TESLA magnetic technology has become increasingly promoted as an alternative / adjunct to physiotherapy to treat pelvic organ prolapse (POP) and stress urinary incontinence (SUI). HITS is believed to be a safe, painless treatment which stimulates fast and slow twitch muscle fibres, strengthening the pelvic floor [1,2]. The treatment is delivered through a chair with the patient fully clothed avoiding internal examinations or vaginal stimulation which can be uncomfortable. The aim was to objectively evaluate the effect of HITS therapy on pelvic floor muscles using the MAPLe® device[3].

MATERIALS AND METHODS

Local ethical approval was obtained (REF: BLS/19/01). 10 healthy volunteers were recruited through a poster campaign in local gymns, hospital and university. Baseline EMG measurements were taken at baseline. All volunteers then completed a course of 8-10 treatments using the HITS chair (either once or twice a week for 30 minutes). EMG measurements using the MAPLe® device were repeated 1 week after completion of treatment. Measurements were taken at rest, maximum voluntary contraction (15 x 2.5 second maximum contraction with 2.5 second rest: assessing *"fast twitch"* fibres) and endurance (5x20 second contraction with 10 second rest: assessing *"slow twitch"* fibres). Resting measurements were subtracted and the mean "area under the curve" calculated (see figure) to compare EMG results before and after treatment using the Paired t-test. Interim results midway through treatment have been presented as a poster in the in the past. We now present the outcomes after all women had received the full treatment regime. Participants were also asked to complete a pain and patient acceptability Likert scale on their experience with the chair. ICIQ-SF UI questionnaires were completed at baseline and after treatment and compared.

FIGURE 1: Area under the curve measured for average of contractions:

a) max vol contraction, b) endurance



RESULTS

10 participants were recruited and all completed their course of 8-10 treatments with the HITS chair. One participant did not attend for their follow up for reasons not related to the study. The results for EMG readings for the 9 participants who completed the study are outlined in the table below.

PARTICIPANT NUMBER	MAX VOLUNTARY CONTRACTION			ENDURANCE		
	Baseline	After 8 treatments		Baseline	After 8 treatments	
	uV/s	uV/s	%	uV/s	uV/s	%
1	1.2	3.2	166	2.4	3.8	58
2	3.6	6	67	4.9	7.2	47
3	7.5	12	60	12.4	16.7	34

4	5.5	5.7	3.6	7.6	9.2	21
5	10.9	13.1	20	16.7	19	13
6	18.6	23.1	24	26.6	31	17
7	6.5	9.7	49	9.5	10.7	13
8	4.2	6.1	45	7.1	11.4	61
9	7.1	9	26	7.3	9.7	33
		p=0.0003		**p=0.0002**		

Only 50% of the female healthy volunteers had symptoms of pelvic floor dysfunction. In light of this and due to the small population size and heterogeneity of population, analysis of ICIQ-SF scores was not suitable. On assessment of patient acceptability, no women found the HITS chair treatment painful, rating 0-2 /10 on Visual analogue scale and all women rated the experience as "acceptable" or "very acceptable" on Likert score.

INTERPRETATION OF RESULTS

All participants demonstrated an improvement in their pelvic floor muscle EMG after 8 sessions using the HITS chair. This was demonstrable independent of their initial pelvic floor EMG strength, ie: women with both weak pelvic floor and strong pelvic floor at baseline demonstrated a benefit / improvement in EMG readings.
We accept the strengths of this study include the use of objective measurement of pelvic floor muscle activity and validated acceptability scores. Limitations include the small population size and healthy nature of participants who may or may not have symptoms of pelvic floor dysfunction.

CONCLUSIONS

This small pilot study suggests that HITS therapy may be beneficial in increasing pelvic floor strength and may be a useful adjunct to conventional physiotherapy and a more acceptable and less painful alternative to vaginal electrical stimulation in women who are unable to voluntarily engage their pelvic floor muscles. We suggest further research into the efficacy of HITS therapy with larger randomised studies in a symptomatic population.

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27 - THE IMPACT OF PELVIC FLOOR DYSFUNCTION ON ELECTROMYOGRAPHIC ACTIVITY IN WOMEN: PRELIMINARY ANALYSIS OF MUSCLE ACTIVITY DIFFERENCES

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INTRODUCTION AND AIM OF THE STUDY

The aim of this study was to investigate and compare the pelvic floor muscles surface electromyographic (sEMG) activity between healthy women, with stress urinary incontinence (SUI) and pelvic floor dyssynergia (DS). SUI is a common condition characterized by the involuntary leakage of urine, while pelvic floor DS refers to the impaired coordination, relaxation and pain of pelvic floor muscles. sEMG studies assess neural activity with baseline sEMG level in the muscles relaxed state and the active (contractile component) resulting from motor unit activation[1]. Compared to healthy and asymptomatic subjects, perimenopausal women affected by SUI show significantly lower sEMG activity[2]. Pelvic floor sEMG activity is also higher in dysfunctions such as pelvic pain, compared to pain-free women[3]. By analyzing sEMG activity, this study seeks to investigate the differences in pelvic floor muscles sEMG activation between three conditions. Currently, there is no scientific evidence confirming significant differences in pelvic floor muscle sEMG activity among women with pelvic floor dysfunctions or establishing the range of "normal" muscle activity values. The clinical significance of pelvic floor muscles sEMG activity in women with pelvic floor dysfunctions compared to healthy women is also unknown.

MATERIALS AND METHODS

This was a prospective observational study. A total of 30 participants (M_{age} = 64, SD_{age} = 12.5), including 10 women with SUI, 10 with DS, and 10 healthy women were selected based on multiple inclusion and exclusion criteria. All of women underwent sEMG standard assessment using a wireless intravaginal probe connected to the Noraxon's Ultium EMG sensor system. Five measurements were recorded: 1) Pre-baseline rest, 2) Phasic contractions, 3) Tonic contractions, 4) Endurance contractions, and 5) Post-baseline rest. The collected data were subjected to standard signal processing techniques to calculate the average sEMG activity amplitude of the pelvic floor muscles (expressed in µV).

To estimate the mean differences in sEMG measurements between the groups we used Bayesian multivariate robust linear regression, with all five sEMG measurements treated as a multivariate dependent variable and the group index as categorical predictor. In Bayesian estimation, the uncertainty of estimates is a direct function of the number of observations, thus the small sample size in our study is reflected in the width of the posterior probability of the mean differences. Furthermore, the multivariate model naturally accounts for the interdependencies between the measurements and the robust component (i.e., student-t distribution) makes the mean estimates insensitive to outliers. For inference, we used the 95% highest density interval (HDI) of the posterior difference between mean sEMG values—when the 95% HDI exclude zero, we inferred that the data does provides evidence for a difference between the groups. We also used Bayesian robust linear regression to compare average age, weight, and height—we observed no differences indicating homogeneity of the groups with respect to these factors.

RESULTS

Figure 1 presents the main findings regarding pelvic floor muscles sEMG activity. We observed no differences in sEMG activity between any of the groups in the pre and post baseline conditions (post baseline not shown, because the results were qualitatively the same as for pre baseline).

Comparisons of mean sEMG activities in Phasic, Tonic, and Endurance contractions showed that the sEMG activity was on average lower in the SUI group than in the DS group, under all three contractions, with the biggest difference under the Tonic contraction.

Crucially, we observed no evidence for differences in sEMG activity between healthy and SUI or DS participants, with one exception that the average sEMG activity during Tonic contractions was lower in the SUI than in the Healthy group.

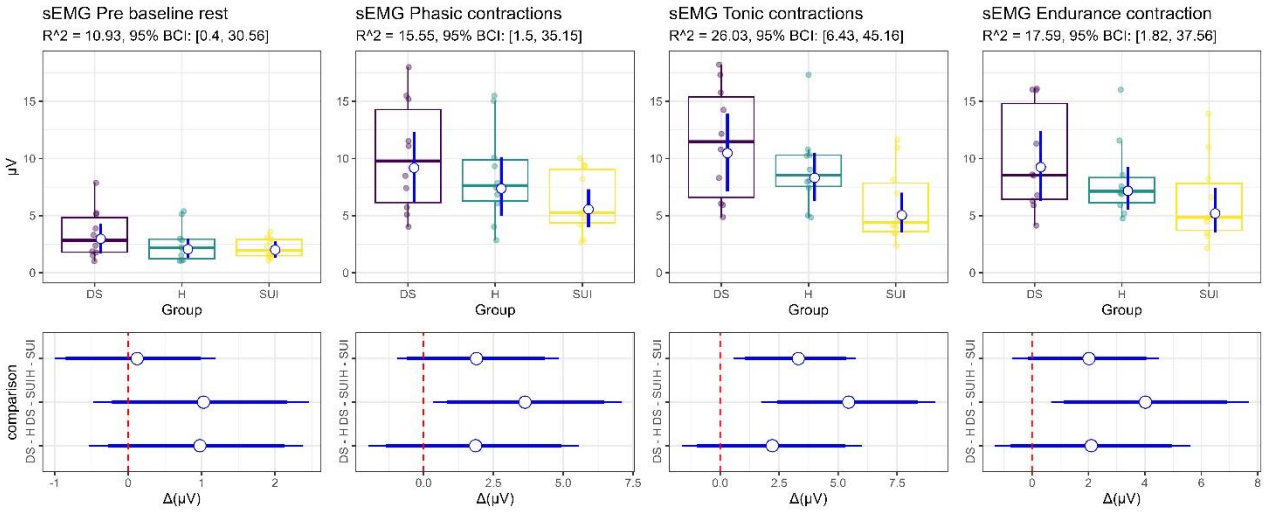

Figure 1: Results of the sEMG activity measurements and differences in average sEMG activities between the groups. Top row shows the individual recorded sEMG values (points). The height of the box shows the interquartile range (i.e., middle 50% of the data) and the bold line within the box is the median. The white points with blue vertical lines show the estimated mean sEMG values and 95% highest density intervals (HDI; i.e., uncertainty of the estimated mean) derived from the Bayesian multivariate robust linear regression. The bottom row shows the estimated differences (points) in mean sEMG values with corresponding 80% and 95% HDI.

INTERPRETATION OF RESULTS

The findings indicated that women with DS and SUI exhibited similar pelvic floor muscles sEMG activity compared to healthy women. The observed differences between the DS and SUI groups align with current literature reporting increased sEMG activity in women with DS–related dysfunctions and decreased sEMG activity in women with SUI. The absence of differences between DS–Healthy and SUI–Healthy groups may confirm that not every recorded increased or decreased sEMG activity can indicates pelvic floor dysfunctions. Moreover, this implies that sEMG activity alone may not be a reliable marker for identifying or physiotherapeutic diagnosing pelvic floor dysfunction in these specific groups. Other factors or assessments may need to be considered to accurately evaluate and physiotherapeutic diagnose of various pelvic floor dysfunctions. These preliminary results also highlight the importance of further research to explore the specific mechanisms underlying the altered pelvic floor muscles sEMG activity and to develop targeted therapeutic interventions. Future studies should investigate a larger sample size and consider additional factors such as age, parity, and symptom severity to obtain a more comprehensive understanding of the relationship between pelvic floor muscles sEMG activity and pelvic floor dysfunctions.

CONCLUSIONS

We cannot conclude that there will be a difference in pelvic floor muscle sEMG activity between women with SUI or DS compared to healthy individuals, and our results suggest limited physiotherapeutic diagnostic utility of sEMG activity measurements in the detection of SUI and DS. Further research is necessary to investigate the variations in sEMG activity associated with different dysfunctions and establish normative values and threshold values for increased or decreased pelvic floor muscles sEMG activity.

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28 - LAPAROSCOPIC BILATERAL UTEROSACROPEXY – APICAL SUSPENSION UNDER UTERINE PRESERVATION IN WOMEN WITH SYMPTOMATIC PELVIC ORGAN PROLAPSE WITH A MINIMUM AMOUNT OF SYNTHETIC MATERIAL

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INTRODUCTION AND AIM OF THE STUDY

Symptomatic pelvic organ prolapse (POP) also affects younger women. If conservative therapies fail, reconstructive surgical therapies come into question.
There are a variety of uterus-preserving surgical options and so far, there is also no clear consensus on a uniform surgical procedure in terms of standardization of individual surgical steps (e.g., type, shape and dimensions of used mesh) for better comparability of clinical outcomes.
We present a uterus-preserving surgical technique with a bilateral apical suspension (replacement of both uterosacral ligaments, USL) in a step-by-step standardized surgical technique with a minimum amount of synthetic material (16 cm^2).

MATERIALS AND METHODS

Women with symptomatic uterine prolapse were referred to our tertiary. Both USL were replaced with a tape-like synthetic structure made of polyvinylindene-fluoride. These tapes of defined length (9cm) and width (0.4cm) were retroperitoneally placed within the run of both USL. Patient´s informed consent to publish and present has been obtained.

RESULTS

Apical support was restored in all 15 patients (mean age: 41 years), as well as urinary continence (in all 6 patients with prior mixed urinary incontinence). No intraoperative complications occurred (vessel or ureter injury and bowel or bladder lesions). Blood loss was less than 30 mL per patient, and the mean operation time was 56 minutes. Over a mean follow-up period of 24 months, no mesh erosions or relapse of prolapse was detected. One patient became pregnant and was delivered by cesarean section in the 39th week without complications. Also the 1-year follow-up showed an anatomically good result.

INTERPRETATION OF RESULTS

This laparoscopic bilateral uterosacropexy represents one alternative treatment option for uterus-preserving standardized apical reconstruction in premenopausal patients, which is based on anatomic structures and bilateral suspension. This uterosacropexy also offers the advantage of fertility preservation in addition to shorter surgical time, low blood loss, and faster convalescence. This clearly defined surgical technique leads to a better comparability of clinical outcomes.

CONCLSIONS

To date, there are only 8 case series in the literature of reported pregnancies after unilateral hysteropexy. However, there is no described case of bilateral uterosacropexy with subsequent successful pregnancy. Nevertheless, further studies need to provide long-term data on anatomic recurrence, and in the case of subsequent pregnancy, especially on the risk of intrapartum complications as well as postpartum anatomic recurrence.

REFERENCES (max. 3)

Figure1. Bilateral uterosacropexy with replacement of both uterosacral ligaments for apical suspension.

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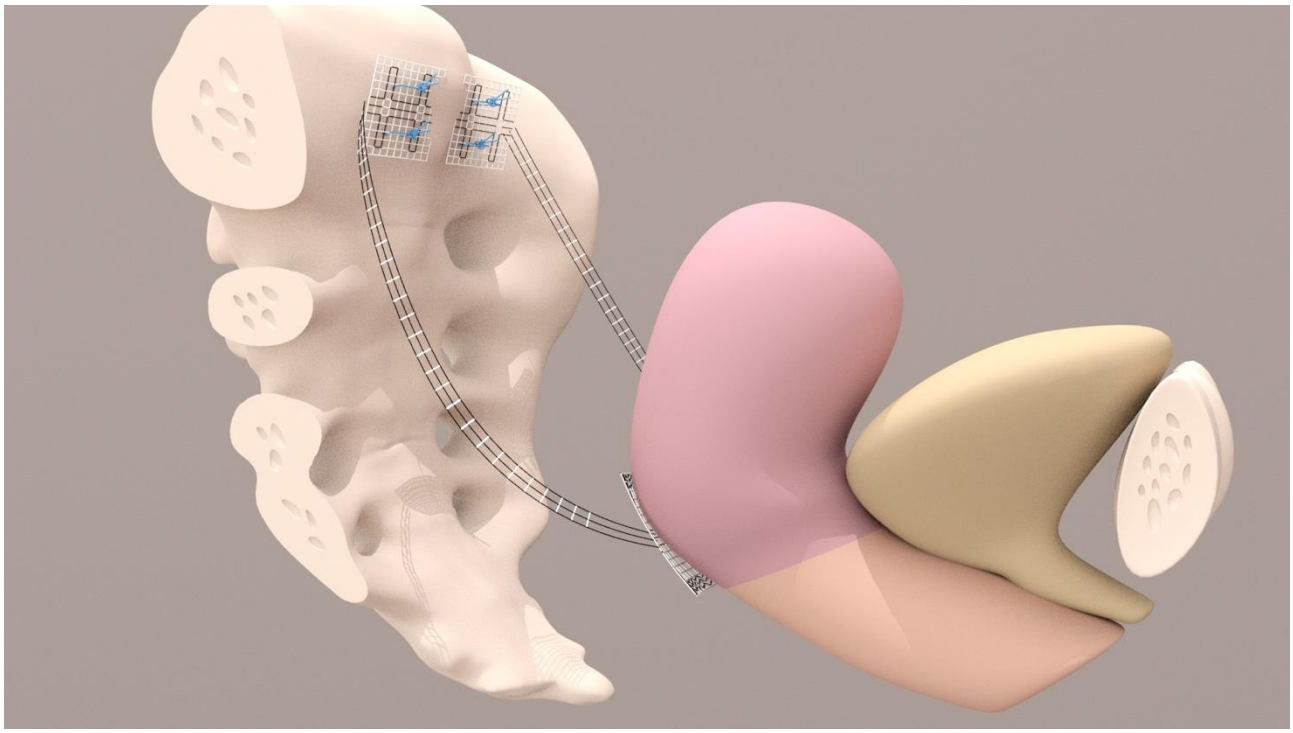

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29 - THE RATE OF PELVIC FLOOR DISTRESS SYMPTOMS FOLLOWING HYSTERECTOMY ACCORDING TO THE SURGICAL APPROACH

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Wolfson Medical Center, Obstetrics And Gyncology, Holon, Israel [(1)]

INTRODUCTION

Hysterectomy is one of the most common gynecologic procedures. Not only is it performed by various indications, but it is also performed by various approaches: abdominal, vaginal, and minimally invasive (laparoscopic or robotic).
Each approach has its pros and cons, especially regarding patient morbidity and surgical challenge. The latter might be meaningful in preventing future pelvic organ prolapse (POP).

OBJECTIVE

We aimed to assess the long-term rate of pelvic floor disorders using the pelvic floor distress inventory-short form (PFDI-20) questionnaire according to the Hysterectomy approach: Abdominal hysterectomy (AH), Laparoscopic hysterectomy (LH), and vaginal hysterectomy (VH).

METHODS

We conducted a retrospective cohort study that included all patients who underwent hysterectomy benign indication in a single tertiary medical center between 2005 and 2016 and completed a minimum follow-up period of 5 years. The surgical reports and medical charts were reviewed, and patients' current symptoms were assessed using the PFDI-20 questionnaire. We compared the rate of POP between AH, LH, and VH, as well as demographic data and surgical characteristics. Multiple negative-binomial regressions were performed to assess the independent relative risk for pelvic floor distress symptoms among VH vs. AH and LH surgeries, adjusting for the patient's age, menopause state, and the main indication for surgery.

RESULTS

A total of 121 patients underwent AH, 102 had LH, and 63 underwent VH. Compared to the VH group, patients in the AH and LH groups were younger(48.6±6.1 vs. 49.5±7.7 vs. 66.2±9.2, respectively, p<0.001), had lower rates of menopause (14% vs. 18.6% vs. 95.2%, respectively, p<0.001), and fewer surgeries were indicated by prolapse (5% vs. 0% vs. 100%, respectively, p<0.001) (Table 1).
In the AH and LH groups, more patients underwent additional salpingectomy and/or oophorectomy (40.5% vs. 53.9% vs. 15.9%, respectively, p<0.001). In the VH group, more patients underwent additional colporrhaphy (0% vs. 6.9%, 44.4%, respectively, p=0.003) and/or anti-incontinence procedure (6.6% vs. 13.7% vs. 92.1%, respectively, p<0.001) (Table 2).
At the time of the last follow-up, the rate of a subjective sense of bulging was lower in the AH and LH groups, compared to the VH group (3.3% vs. 6.9% vs. 41.3%, respectively, p<0.001), as well as overactive bladder symptoms (23.1% vs. 32.4% vs. 55.6%, respectively, p<0.001) (Table 3)
The PFDI-20, POPDI-6, CRADI-8, and UDI-6 scores were significantly higher in the VH group of patients (Figure 1).
In multivariate analyses, VH was independently associated with PFDI-20 (RR= 2.36; 95%CI 1.21 to 4.61), POPDI-6 (RR= 2.95; 95%CI 2.60 to 3.34), CRADI-8 (RR= 2.08; 95%CI 0.80 to 5.41), UDI-8 (RR= 2.13; 95%CI 1.94 to 3.34) and subjective sense of bulging (RR= 11.04; 95%CI 3.31 to 36.80).

CONCLUSIONS

In this retrospective cohort study, we found that VH is associated with all three pelvic floor distress symptoms compared with AH and LH.

Table 1. Demographic and clinical characteristics at baseline

	TAH (n = 121)	TLH (n = 102)	VH (n = 63)	*p*
Age at time of surgery (y)	48.6±6.1[a]	49.5±7.7[b]	66.2±9.2[a,b]	<0.001
Parity	2.2±1.3[a,b]	2.8±1.3[a]	2.9±1.3[b]	<0.001
Previous vaginal deliveries	2.0±1.3[a,b]	2.5±1.4[a]	2.8±1.3[b]	0.01
Previous cesarean delivery	12 (9.9%)	18 (17.6%)	5 (7.9%)	0.1
Menopause	17 (14%)[a]	19 (18.6%)[b]	60 (95.2%)[a,b]	<0.001
Main surgery indication:				
- Leiomyoma and/or Menorrhagia	107 (88.4%)[a]	93 (91.2%)[b]	0 (0%)[a,b]	<0.001
- Pelvic organ prolapse	0 (0%)[a]	6 (6%)[b]	63 (100%)[a,b]	<0.001
- Other	8 (6.6%)[a]	9 (8.8%)[b]	0 (0%)[a,b]	0.05

Data are presented as n (%) or mean± standard deviation.
Superscript letters indicate statistical significance between the groups.

Other = urinary symptoms, pain, endometriosis

30 - HYSTERECTOMY TRENDS IN ISRAEL BETWEEN 2005 AND 2021 – NATIONWIDE COHORT

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OBJECTIVE
We aimed to assess national trends of hysterectomy surgeries in the Israeli population and identify the rate, indication, and surgical route according to patient age.

METHODS
This was a national cohort of all hysterectomies performed in Israel. All hysterectomies in patients 15 years or older registered in the Ministry of Health database between 2005 and 2021 were reviewed for patient age, surgical indication, and surgical route. To determine the rate of hysterectomy in the population, data from the national population registry was extracted, noting the number of females over the age of 15 at any year and their age distribution. The correlation was determined with the use of Pearson's test.

RESULTS
During the study period, 88,726 hysterectomies were performed, an average of 5,219 ± 278 yearly, at a rate of 1.7 hysterectomies per 1000 women. The lifetime risk for a woman to undergo a hysterectomy was calculated as 1/6. A decrease in the overall rate of hysterectomies throughout the study period was noted (R=-0.91, p<0.001), with a significant decrease in the rate of abdominal procedures (R=-0.98, p<0.001), an increase in laparoscopic procedures (R=0.98, p<0.001) and no change in the vaginal procedure rate (R=-0.04, p-0.87) (Figure 1). The peak incidence of hysterectomies was among patients aged 45-54 (4.2/1000 women), in whom the laparoscopic and abdominal routes were most commonly used, followed by 65 to 74 (3.6/1000 women), in whom the vaginal route was preferred. The most common indications for a hysterectomy were leiomyoma (29.9%), malignancy (28.4%), and pelvic organ prolapse (POP) (25.7%). There was a significant increase in the indication rate for POP (R=0.88, p<0.001), and on the contrary decrease in the indications rate of leiomyoma (R=-0.87, p<0.001) and malignancy (R=0.53, p=0.03) (Figure 2).

CONCLUSIONS
Israel's national trends in hysterectomies mirror global trends – an overall decrease in the surgical rate throughout the years, mainly due to a decrease in abdominal surgery. The indication rate for POP has increased.

Figure 1.

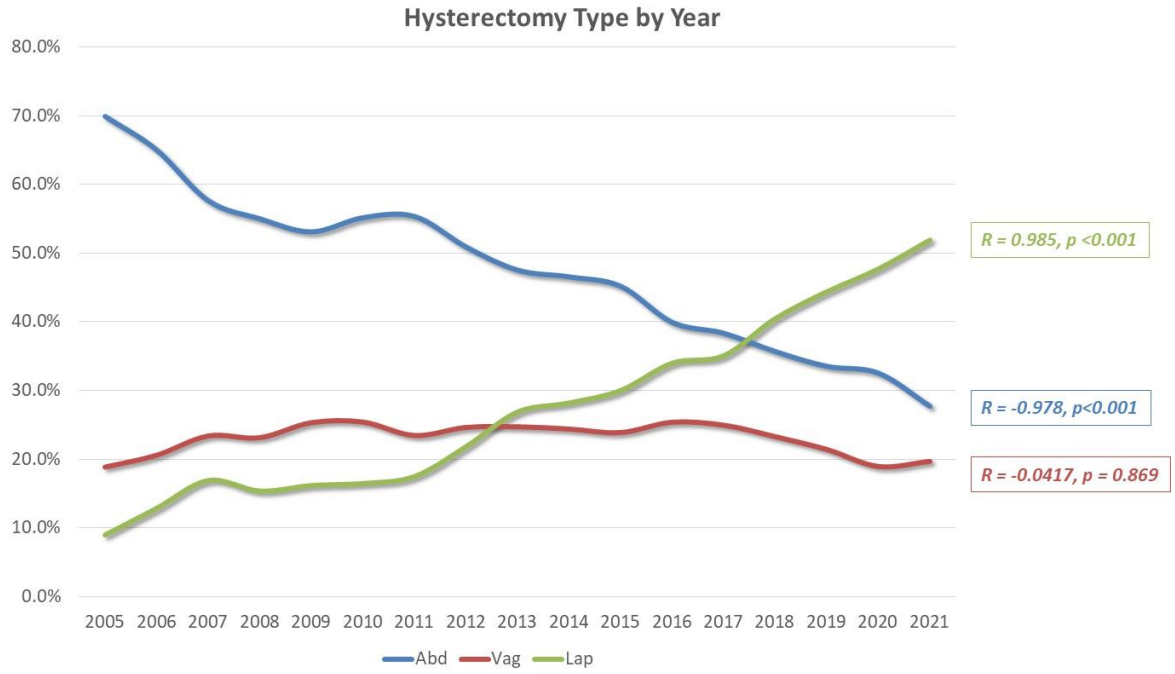
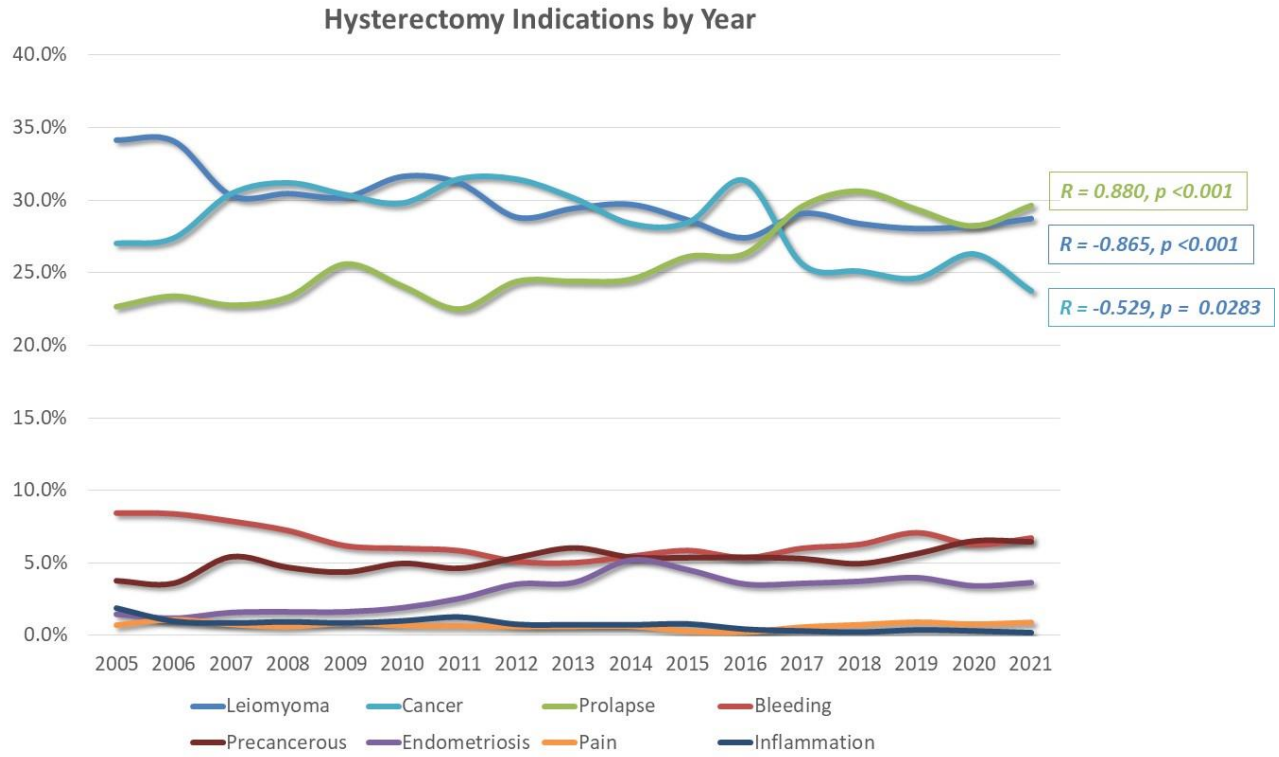


Figure 2.



31 - DETERMINING OPTIMAL SURGICAL PROCESS FOR ROBOTIC SACROCOLPOPEXY (SCP)

Roni Tomashev [1] - **Abbas Shobeiri** [1] - **Wendy Zeng** [1] - **Yael Baumfeld** [1] - **Riley Kraus** [1]

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a disturbing and diminishing condition. Sacrocolpopexy (SCP) is a common surgical procedure to manage POP, evolving in the last 50 years from major abdominal surgery to a minimally invasive procedure with laparoscopic/robotic approaches. Patient safety and OR efficiency are two milestones in every surgery, but literature lacking surgical steps and materials necessary for efficient robotic SCP (RSCP). We hypothesized that RSCP methodologies differed amongst our urogynecologists. Our goal was to optimize and standardize surgical technique and efficiency of the RSCP.

MATERIALS AND METHODS

This study was conducted in a tertiary teaching institute that performs SCP procedure routinely. 14 surgeries were observed from five different urogynecologysts from May-October 2021. Surgeries were noted for step order, time needed to perform, and materials used by every surgeon.
Data was compiled, analyzed, and merged to a flowchart determine the optimal step order, materials and time for each surgical step after discussion and agreement among the five surgeons. The optimal time was calculated as a ratio of each surgeon to the fastest performance.

RESULTS

Flow chart describes surgical steps that were most likely to be most efficient.
Selected standardized materials are:
-RUMI_KOH manipulator for supracervical/ total laparoscopic hysterectomies
-L_Mesh cut in two pieces
-2-0 Vlock suture, 6/9 inches long for mesh attachment to the anterior and posterior vaginal walls
-Ethibond for the attachment of mesh to the sacrum
-2-0 Vlock suture for closure of the peritoneum

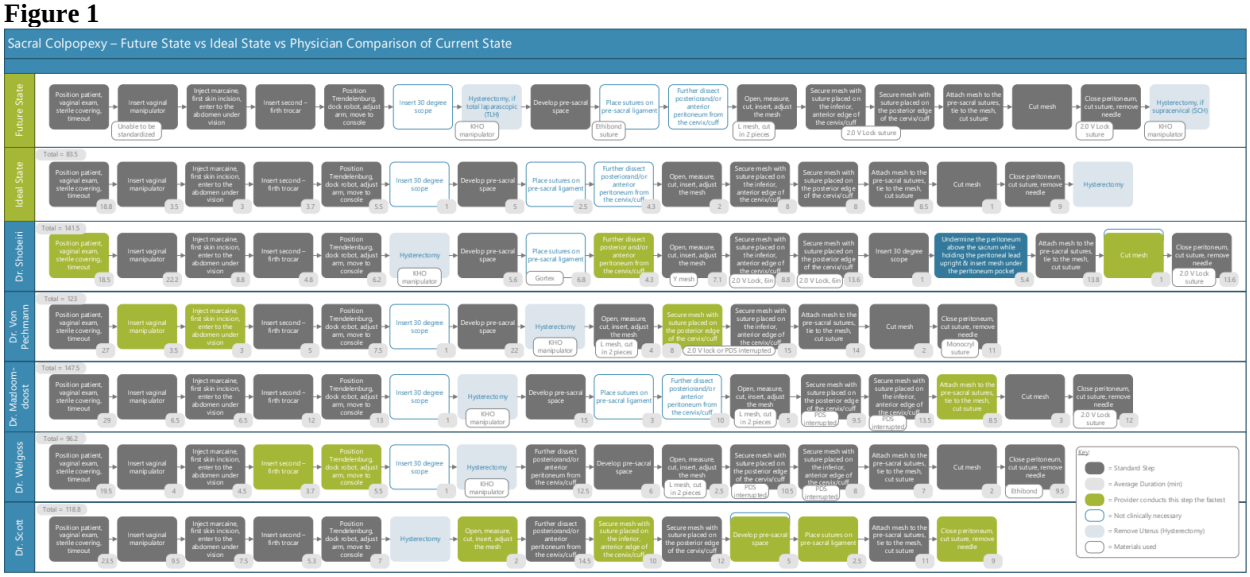
INTERPRETATION OF RESULTS

The fastest surgery time was 96.2 minutes, comparing all surgeons. Performance of each step in standardized order decreased the OR time by 13-43%.

CONCLUSIONS

We analyzed and optimized the RSCP procedure, and we propose a uniform protocol of surgical steps and materials that can decrease OR time, be cost effective and is safe and beneficial to the patients.

Figure 1



32 - INFLUENCE OF PRP ON THE VAGINA, FISTULOUS CANAL TISSUES UND UROTHELIUM IN PATIENTS WITH RECURRENT VESICO - VAGINAL FISTULA - HISTOLOGY AND IMMUNOHISTOCHEMISTRY.

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BACKGROUND:

Vesico- vaginal fistula (VVF) have been cause of significant ailments and a decrease in the quality of life. They are non-physiological communication between bladder and vagina and are resulting in uncontrollable, often constant, leakage of urine through the vagina. The causes of VVF are different in developing and developed countries. It is estimated that 85% all of VVFs in developed countries appear as a complication of transabdominal hysterectomy (1.4/1000 procedures) or transvaginal hysterectomy (0.2/1000 procedures), and 11% develop after caesarean section. In developing countries the most common causes are obstetrician complications. Vesicovaginal fistula can also be associated with uterine cavity curettage, cone biopsy, stress urinary incontinence procedures, laparoscopic hysterectomy or may also be a late consequence of oncological radiotherapy [1]. Surgical treatment still remains the main treatment option. Nowadays, the leading technique in case of vesicovaginal fistulas is vaginal approach and Latzko procedure. According to the WHO, successful closure rate for a first repair is around 85% [2]. Surgical treatment can also be performed with the transabdominal approach either with laparotomy or laparoscopy or even robotic. On the other hand, there are more and more reports in the literature on the use of regenerative methods as a supporting treatment in case of fistulas. One of them is platelet-rich plasma, which is an autologous platelet preparation obtained from whole blood, with a higher concentration of thrombocytes than in the starting preparation. Platelets contains numerous granules, which in turn store growth factors, cytokines and inflammatory mediators, which explains their role in so many processes such as aggregation, proliferation, angiogenesis and wound healing [3, 4]. There is only one publication available in the literature, that confirms reduction of tissue fibrosis and increasing cell's density in patients after PRP [5].

OBJECTIVE

The aim of the study was to investigate how PRP influences on tissue condition and healing capability of urothelium, vaginal skin and tissues surrounding fistulous canal.

MATERIAL AND METHODS

The study included 8 patients, who underwent Latzko procedure aiming to close VVF. Tissues of fistulous canal were collected during primary surgery without PRP and if surgery was unsuccessful, again during second attempt 6 weeks after PRP injection. Specimens were subjected to histological evaluation and immunohistochemical tests. Microscopic evaluation of the tissues included comparison of vascularity, collagen fibers and inflammatory infiltration in patients with or without PRP injection. Additionally, the immunohistochemical evaluation was carried out in order to analyze the presence of proteins which are the most important in wound healing: Platelet Derived Growth Factor (PDGF), Epithelial Growth Factor (EGF) and Transforming Growth Factor (TGF). Tissues were fixed in a 10% buffered formalin solution and then transferred to the paraffin blocks. Hematoxylin and eosin (HE) staining, van Gieson and silvering of mesh fibers were applied. Immunohistochemical test were performed on the paraffin blocks, from which 4 mm thick sections were cut and placed on silanized slides. The PTLink device (Agilent Technologies, Agilent Dako, Santa Clara, United States) was used to remove the paraffin and exposed the antigens. Then blocks were placed for 20 minutes at 97°C in Target Retrieval Solution (pH=9,0 for PDGFB, TGFα, TGFβ, EGF and pH=6,0 for PDGFA) (Agilent Technologies, Agilent Dako, Santa Clara, United States). Endogenous peroxidase activity was blocked by covering sections with 3% hydrogen peroxide solution for 5 minutes in room temperature. Then, specimens were incubated with primary antibodies (PDGFAA-07-1436, Merck, Sigma-Aldrich, Darmstadt, Germany; PDGFB-SAB2108198-100UL954, Merck, Sigma-Aldrich, Darmstadt, Germany; anti-TGF β1- SAB4502954, Merck, Sigma-Aldrich, Darmstadt, Germany; anti-TGF β2-SAB4502956, Merck, Sigma-Aldrich, Darmstadt, Germany; anti-EGF- SAB5300488, Merck, Sigma-Aldrich, Darmstadt, Germany) and covered with Dako Real Envision (Dako K5007; HRP, Rabbit/Mouse, Agilent Technologies, Agilent Dako, Santa Clara, United States) for 30 minutes at room temperature. After each stage of reaction the specimens were washed by Dako Wash Buffer (Agilent Technologies, Agilent Dako, Santa Clara, United States). In order to visualize the reaction in a light microscope a 3,3'- diaminobenzidine tetrahydrochloride solution was used. Next, specimens were stained with Mayer's hematoxylin for 1 minute (Merck, Sigma-Aldrich, Darmstadt, Germany). Rabbit serum was used as a negative control. Positive control was performed on scraps from the human kidney and placenta. Reactions were evaluated in an Olympus BX51 light microscope (Olympus, Tokio, Japan). Patient's demographic and clinical data are given in Table 1.

Number of the sample	Age	Parity	BMI	Surgery before VVF occurence
0.01	49	1	24,2	Op. m. Meigs
0.0.1.1	49	1	24,2	Op. m. Meigs
0.02	54	1	30	TAH/BSO
0.03	42	0	19,53	TAH
0.04	33	1	20,2	Op. m. Meigs
0.05	74	1	19.71	TAH
0.06	60	4	26,7	TAH/BSO
0.07	44	0	23,5	TAH/BSO

Table 1. Patient's demographic and clinical data.

RESULTS

The histological examination demonstrated that in PRP patients greater vascularization and a wider subepithelial mucosa layer were observed. Moreover, inflammatory infiltration in subepithelial layer was markedly increased in PRP patients and consisted mostly of lymphocytes compared to non-PRP patients were eosynophils were predominant. There was no significant differences in localization of immunohistochemical tested proteins.

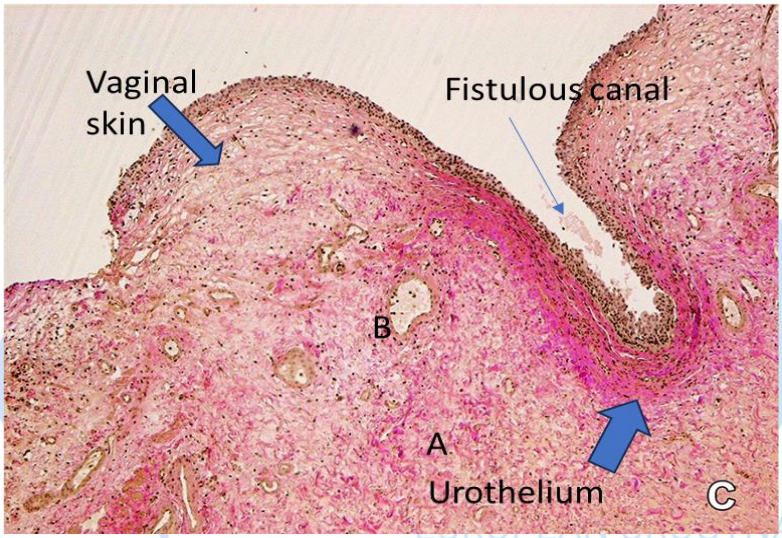

Figure 1. Histology after PRP injection - van Gieson; A- collagen fibers; B-vessels. Lymphocyte -rich inflammatory reaction is observed with dense capillary vessel matrix, wider subepithelial layer and rich vascularization.

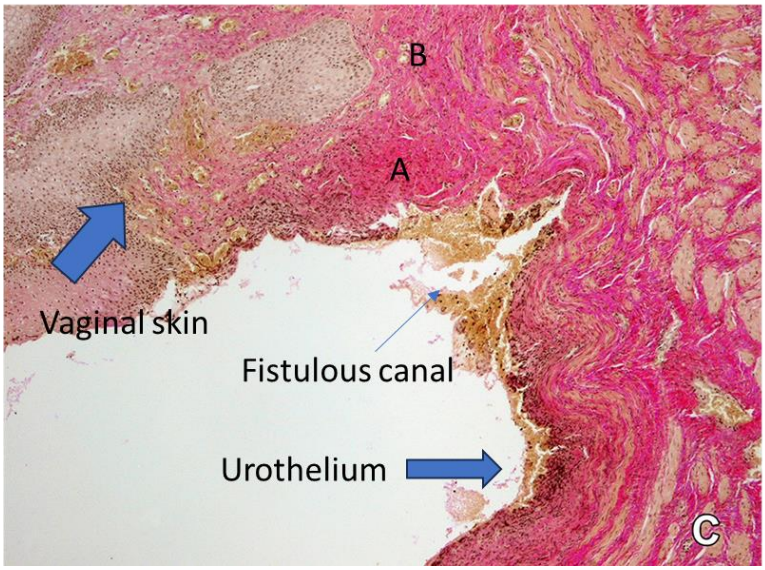

Figure 2. Histology before PRP injection - van Gieson; A-collagen fibers; B- vessels; Eosynophils- rich inflammantory reaction is observed, less collagen fibers and less capillary vessels.

CONCLUSIONS

The use of platelet-rich plasma significantly improves morphological structure of injected tissues. Thickening collagen fibers network which is being rebuilt during the healing process significantly increases the probability of fast and effective scar formation and closure of VVF. Cellular infiltration of PRP patients tissues differs from those non-PRP, as a result of immunological pathways activation and the mechanism of initiation of the healing process.

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33 - COMPARISON BETWEEN VAGINAL AND LAPAROSCOPIC SACROCOLPOPEXY

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INTRODUCTION AND AIM OF THE STUDY

Sacrocolpopexy is the gold standard for treating apical vault prolapse. Although currently, the most common approach is laparoscopically or robotically, a combined approach is also described.
We aimed to compare a "pure" vaginal sacrocolpopexy (VSC) approach with laparoscopic sacrocolpopexy (LSC).

MATERIALS AND METHODS

This is a retrospective cohort study that compares the results of 25 patients who underwent VSC and 2 6patients who underwent LSC or sacrohysteropexy. VSC was performed in the following method: after transversely incising the vaginal apex without opening the peritoneal cavity, the posterior peritoneum was bluntly dissected over the rectum, all the way to the sacrum. A polypropylene mesh was then sutured to the posterior vaginal wall leaving the excess length of the mesh proximally. The rectum was displaced to the left while the mesh was inverted into the dissected space and attached to the anterior surface of the sacrum, under digital control with 2-3 endoscopic tackers (Figure 1).

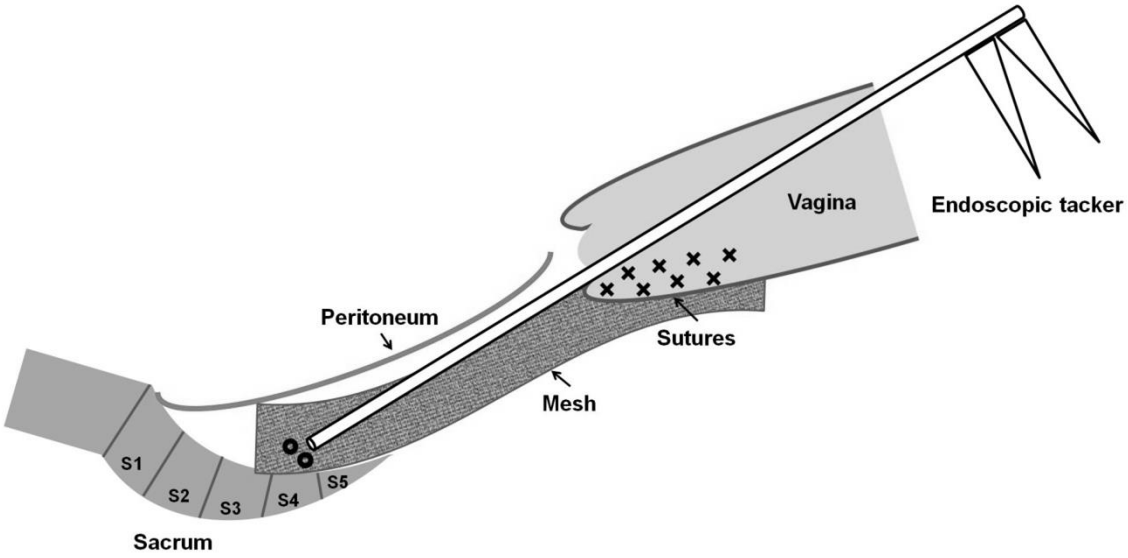
RESULTS

Demographics and clinical characteristics were similar in both surgical approaches. The VSC procedure was shorter than LSC (84 ± 27 vs. 104 ± 29 minutes, respectively, p=0.014), while the rate of postoperative complications was similar between the groups.
In a follow-up of more than eight months, the rates of prolapse recurrence and mesh exposure were similar between the groups.

CONCLUSIONS

VSC is shorter than LSC, while the rates of immediate and late complications, as well as the success rate, are similar.

Figure 1



34 - DE NOVO OVERACTIVE BLADDER AFTER TRANSVAGINAL PROLAPSE REPAIR WITH OR WITHOUT HYSTERECTOMY

Chiara Cimmino [(1)] - **Chiara Scancarello** [(1)] - **Manuela Grampa** [(1)] - **Andrea Braga** [(2)] - **Stefano Salvatore** [(3)] - **Alessandro Ferdiinando Ruffolo** [(3)] - **Fabio Ghezzi** [(1)] - **Maurizio Serati** [(1)]

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INTRODUCTION AND AIM OF THE STUDY

Overactive bladder (OAB) symptoms are often reported by patient with pelvic organ prolapse (POP); there are evidence suggesting improvement in OAB symptoms after POP repair (1), but also de novo OAB symptoms have been described (1, 2). The use of prosthetic material for prolapse surgery or concomitant mid-urethral sling placement for stress urinary incontinence (SUI) treatment may cause a higher rate of de novo OAB symptoms (2). Only few authors have investigated the effect of POP surgery in patients with no previous history of OAB (1, 2). The aim of this study is to evaluate the efficacy of vaginal native tissue surgical techniques for the correction of POP, with no concomitant SUI procedures, and to evaluate the existence of a possible correlation between POP repair and de novo OAB symptoms onset. In particular, we wanted to compare patients undergoing vaginal hysterectomy and correction of the anterior compartment prolapse and suspension of the vaginal cuff, with patients undergoing a uterus-sparing procedure**.**

MATERIALS AND METHODS

Data concerning patients undergoing POP surgery in our Urogynecology and Pelvic Floor Pathology Center from 2014 to 2023 were retrospectively analyzed. All patients underwent a urogenital pre-operative examination, and POP was staged according to the POP-Q classification System. Patient with stage I or II apical prolapse according to the POP-Q classification System, associated with anterior compartment prolapse stage II or III, were considered. Data relating to patients who reported urinary symptoms such as SUI, OAB symptoms, or voiding disfunction, were excluded. We excluded patients with history of previous POP or SUI surgery. Based on this criteria, 133 patients were analyzed. Urodynamic testing, including uroflowmetry, cystometry and pressure-flow study, was performed by a qualified urogynecologist. All patients underwent POP native tissue surgery with a vaginal approach, with hysterectomy or with uterus-sparing technique. No concomitant SUI procedures were performed. The two surgical techniques used were the vaginal hysterectomy associated with anterior repair and bilateral uterosacral ligament suspension culdoplasty according to McCall, or the modified version of the procedure described by Huffaker et al. (3) called hysteropexy and cystopexy. The choice between the two types of surgery was determined by the surgeon in agreement with patients, taking certain characteristics into consideration such as age, menopausal status, the desire for future pregnancies, descensus of the apical point. Data were collected at 2 and 12 months post-operatory clinical evaluation: subjective and objective satisfaction of patient was evaluated, as well as the presence of de novo OAB symptoms

RESULTS

Patients who met the criteria were 133. Of these, 46 had undergone vaginal hysterectomy, anterior repair and uterosacral ligament suspension, and 87 underwent anterior repair and hysteropexy. Characteristics of both groups are shown in Table 1.

At the first post-operative check-up, concerning the patients undergoing vaginal hysterectomy reported 100% of patients subjectively satisfied, and this was confirmed by the objective clinical evaluation: 46 out of 46 patients who underwent vaginal hysterectomy, cystopexy and culdoplasty showed a descensus with a maximum point lower than -1 in the anterior and central compartment. At 12 months follow-up evaluation 40 patients were available, and 100% of them declared themselves subjectively satisfied, confirmed by the objective clinical evaluation. Of these 40 patients, 2 (5%) reported the onset of OAB symptoms after surgery, and were therefore addressed to antimuscarinic therapy (Table 2). As regard as patients who underwent uterus-sparing POP surgery, at the first post-operative check-up100% of patients reported to be subjectively satisfied, and the outcome was confirmed by the specialist's objective clinical evaluation: 87 out of 87 patients who underwent cystopexy and hysteropexy showed a descensus at the visit with a maximum point lower than -1 in the anterior and central compartment. At 12 months follow-up evaluation 71 patients were available: 69 of them declared themselves subjectively (97.18%), and 5 (7.04%) reported the onset of OAB symptoms after surgery, and were therefore addressed to antimuscarinic therapy.

INTERPRETATION OF RESULTS

POP has low morbidity and mortality, and the surgical indication is given when the symptoms are disturbing for the patient. OAB symptoms and POP often coexist. This review (1) reported a strong co-existence between the two, suggesting that a causal relationship between OAB and POP may exist, even if pathophysiology of OAB in patients with pelvic organ prolapse is still unclear.

OAB symptoms and urinary symptoms in general, may be erroneously perceived by patients as totally dependent and caused by POP, rather than as two coexisting conditions that may need different treatments. For this reason, we only considered data regarding POP symptomatic patients with no OAB past or present history. OAB can be considered a

dynamic condition with an annual incidence on general population reported to be up to 5.3%, similar to the incidence of de novo OAB in our series in 12 months follow-up.
The uterus sparing POP repair procedure we used appears to be as effective as the one involving vaginal hysterectomy in terms of patient satisfaction. Compared to techniques that involve the use of prosthetic material, both vaginal hysterectomy with anterior repair USL suspension and hysteropexy associated with cystopexy seem to be preferable since the incidence of de novo OAB seems to be lower, and similar to the annual incidence of OAB in the general female population. No statistically significant difference was found in terms of de novo OAB in the use of one technique rather than the other. The choice of the surgical technique should be made by the surgeon considering which one he is more familiar with, in agreement with patient desire.

CONCLUSIONS

Analyzing the available data relating to our Urogynecology and Pelvic Floor Pathology Center, no statistically significant differences emerged regarding the efficacy of the two procedures described for POP repair, neither in terms of subjective outcome, nor in terms of greater or lesser onset of de novo OAB symptoms. A thorough counseling and a detailed informed consent are the best resources available for the urogynecological surgeon in order to verify patient's expectations, validate or resize them when necessary, and best assist her in improving her quality of life.

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Table 1

	N.	AGE (m)	FERTILE AGE (n. - %)	MENOPAUSE (n. - %)	PARITY (m)	BMI (m)	DETRUSOR OVERACTIVITY (n.-%)
HYSTERECTOMY	46	64,1	4 (8.7%)	42 (91.3%)	1,8	24,7	12 (26,1%)
HYSTEROPEXY	87	63	8 (9.2%)	79 (90.8%)	2,0	23,9	24 (27,6%)
p value		*p=0.57*	*p=0.19*	*p=0.92*	*p=0.19*	*p=0.20*	*p=0.85*

Table 2

	HYSTERECTOMY	HYSTEROPEXY	*p value*
DE NOVO OAB on total n. patients	2/46 (4.35%)	5/87 (5.75%)	p=0.73
DE NOVO OAB on n. patients available at 12 months follow-up	2/40 (5%)	5/71 (7.04%)	p=0.67

35 - ANCHORSURE DEVICE FOR BILATERAL ANTERIOR SACROSPINOUS LIGAMENT FIXATION: CLINICAL EFFICACY COMPARED TO CAPIO SLIM - A RETROSPECTIVE MONOCENTRIC PILOT STUDY

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INTRODUCTION

The anterior sacrospinous ligament fixation (SSFA) is one of the methods used in the management of vaginal prolapse and is part of the therapeutic arsenal of vaginal surgeons. Since the prohibition of vaginal mesh implants, there has been a resurgence of this approach, which was often abandoned in favor of the high route. The SSFA is an old method with high feasibility and good reproducibility, but its main adverse effect is pain, particularly in the gluteal region.
The pharmaceutical industry has developed numerous anchoring devices. Currently, the CapioSlim is the most commonly used device. Anchorsure is a device developed and marketed by Néomédic. Its direct anchoring to the ligament may reduce postoperative pain compared to the CapioSlim. Therefore, we hypothesize that fixation to the sacrospinous ligament using the Anchorsure system would be associated with less postoperative pain compared to the use of CapioSlim.

MATERIALS AND METHODS

We conducted a retrospective study of 26 cases of anterior sacrospinous ligament fixation (SSFA), either alone or in combination with other autologous tissue vaginal prolapse repair procedures, with or without hysterectomy (based on indication). The cases were divided into two groups according to the device used: Anchorsure (n=15) and Capio Slim (n=11), which served as our control group. Our primary evaluation criterion was postoperative pain. To assess this, we used a self-assessment scale based on the visual analog scale (VAS) ranging from 0 (no pain) to 10 (intense pain). Evaluation was performed at Day 0 and Day 1, and we also recorded the maximum value during the hospital stay.

Additionally, we examined:
- Length of hospital stay
- Potential complications
- Impact on immediate and/or short-term anatomical correction
- Possible improvement in functional outcomes

The clinical status was described using the international POP-Q (Pelvic Organ Prolapse Quantification) classification.

Regarding the surgical technique, we standardized the SSFA using two non-absorbable sutures with bilateral sacrospinous ligament fixation from the start. Concomitant vaginal hysterectomy was performed only when indicated, in which case the uterosacral ligaments were connected to the sacrospinous ligaments. For quantitative variables, we used the Wilcoxon-Mann-Whitney test, and for categorical variables, we employed the Fischer's exact test or chi-square test. Our significance threshold for all tests was set at a p-value less than 0.05.

RESULTS

There was no significant difference between the two groups. All patients underwent concurrent correction of the anterior compartment through Halban fascia plication in cases of pure apical prolapse, except for one patient in the Anchorsure group.

In terms of primary outcomes, there was no difference in VAS scores at Day 0, Day 1, and the maximum VAS score during the hospital stay between the two groups. The length of hospital stay was similar in both groups. The preoperative prolapse stage was comparable in both groups. However, a significant difference was observed in the correction of anterior compartment prolapse (Ba) in favor of the Anchorsure group (p=0.023), with optimal correction (POP-Q stage 0) achieved in 70% of Anchorsure cases compared to 11% in the Capio Slim group (p=0.02) (Figure 5).

There were no intraoperative complications in either group and the duration of hospitalization was comparable. The occurrence of transient de novo dysuria was also similar in both groups, with rates of 26.1% for Anchorsure and 27.1% for the Capio group.

DISCUSSION

We conducted an initial evaluation of the Anchorsure system since its introduction in our department. Due to the limited number of cases, we included only cases of bilateral SSFA to ensure relatively homogeneous groups. The use of both devices showed comparable results in terms of postoperative pain, efficacy, and safety. The only statistically significant

difference between the two groups was the anatomical correction of the anterior compartment, favoring the Anchorsure device. However, this result should be interpreted with caution due to the small number of cases.

We used the impact on postoperative pain as the primary outcome to test the argument for potential superiority of Anchorsure over other devices. Indeed, the Anchorsure system allows for a direct approach to the ligament without entrapment, which has been associated with neurogenic pain, the most common complication. Currently, there are only two published studies in the literature evaluating the Anchorsure device, and only one of them assessed postoperative pain, finding no difference between the two groups.

We compensated for the limited number of cases, the retrospective design of our study, and the lack of medium-term follow-up data by standardizing the surgical techniques and including only patients with bilateral SSFA as the main intervention. This small series did not find a difference in the primary outcome but could serve as a pilot study for larger studies comparing these devices in sacrospinous ligament fixation, particularly in the context of bilateral anterior sacrospinous ligament fixation, where the use of such devices becomes relevant.

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36 - URETERAL REIMPLANTATION FOLLOWING URETERAL INJURY- TIPS AND TRICKS

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BACKGROUND

Ureteral injury is overall rare. It is often iatrogenic, occurring during pelvic surgery. Treatment may include placement of a ureteral stent or surgical repair, depending on the severity and location of injury. Most of iatrogenic injuries are proximal to the bladder and will require ureteral reimplantation.
Herein we present a video of ureteral reimplantation following iatrogenic injury.
In this video we aim to describe step-by-step a simplified surgical technique of laparoscopic neoureterocystoanastomosis with a few tips and tricks to facilitate the repair.

MATERIAL AND METHODS

Surgical technique
A transperitoneal laparoscopic approach is used. The proximal ureter is dissected and transacted at the level of the injury. Exposure of the bladder, detrusor fibres are divided to expose bladder mucosa in preparation of the site for anastomosis. The dissected ureter is then passed through the trocar extracorporeally , that simplifies the procedure and saves time performing the next steps including debridement and spatulation of the distal ureter followed by stent insertion and initial suture in preparation for the anastomosis. The ureter then introduced back to the abdomen. The first sutures on bladder and ureter are performed without bladder opening with intact mucosa while the bladder is full and only when we have a good support and the ureter is fixed to the bladder, we open the mucosa and complete the anastomosis.

RESULTS

Out of 150 ureteral reconstructions in our centre 103 (69%) were secondary to obstetric and gynecologic procedures. 55 involved the right ureter and 51 involved the left, 3 had bilateral injury. Of these 103 cases the site of the injury was proximal to the bladder.

CONCLUSIONS

Extracorporeal surgical steps on the ureter and stent insertion if the length of the ureter is satisfactory and the width of the abdominal wall permits so, simplifies the procedure, and reduces operative time. In addition, performing the initial sutures of the neoureterocystoanastomosis both on the bladder wall and the ureter while the bladder is full with intact mucosa may also be a helpful tool in the surgeon's armamentarium.

37 - PUDENDAL NERVE BLOCK UNDER NEUROPHYSIOLOGICAL GUIDE AS DIAGNOSTIC AND THERAPEUTIC TOOL FOR THE TREATMENT OF CHRONIC PELVIC PAIN: 15 YEARS EXPERIENCE

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INTRODUCTION AND AIM OF THE STUDY

Chronic pelvic pain is a non-malignant pain perceived in structures related to the pelvis of either men or women. In the case of documented nociceptive pain that becomes chronic, the pain must have been continuous or recurrent for at least 6 months. Pudendal neuralgia is caused by inflammation, compression and traction of the pudendal nerve. It may be associated with childbirth, strenuous exercise, perineal trauma, infections of urogenital tract, herpes virus infections, fungal infections and also, it is connected to age-related changes. In all cases, negative cognitive, behavioral and social consequences (ICS statement) may be associated. Guided pudendal nerve blocks have been attempted in different ways by fluoroscopy with or without nerve stimulation, CT, US or with the "low tech" finger, using only anatomic landmarks. Up to today only a few authors have tried to reach the nerve under neurophysiologic guide to deliver drugs close to the nerve (as blocks can fail if drugs are not placed in its close proximity). The aim of this retrospective study was to report the long term results of a minimally invasive procedure for the treatment of persistent and drugs resistant pudendal neuralgia using a very simple and effective way of targeting the nerve.

MATERIALS AND METHODS

From March 2006 to June 2022, 1132 patients (398 males, 734 females) mean age 46.4 years, underwent a therapeutic/diagnostic pudendal nerve block under neurophysiologic guide using pudendal nerve C-MAP derived from the anal sphincter with EMG needles or surface electrodes. They were suffering from CPP for at least 6 months (6 months to more than 10 years) with no response to all other conservative treatments (nerve mobilization with manual therapy, oral drugs, neuromodulation, laparoscopic nerve release). All other possible causes and underlying conditions for symptoms referred by the patients were excluded before concluding that the patient was suffering from "genuine" pudendal neuralgia. All of them underwent a comprehensive neurological and neurophysiological evaluation. Pain intensity was assessed at the time of the first visit and then 15 days after each procedure using a Visual Analogue pain Score (VAS) and the Memorial Pain Assessment Card. The first step of the procedure was to identify the ischial spine as the pudendal nerve is formed just proximal to it. We found it with a dorsal transgluteal approach, under fluoroscopy or Chinese medicine landmarks. A filter setting of 100 Hz - 1 KHz, gain of 500 mV/div and sweep speed of 50 ms (5 ms/div) were used during registration of C-MAP to find the nerve position, delivering rectangular pulses of 50 μsec duration as a repeated single stimulus at 2 Hz. The lower is the intensity to evoke a replicable C-MAP, the closer is the nerve and at 1-2 mA amplitude we are sure to reasonably be in close proximity to the nerve. We ask the patient if feels the stimulation in the painful area, we check the C-MAP to be replicable and inject a mixture of 3 cc of Bupivacaine HCl, heparin 5000 IU and 1 cc/4 mg of dexamethasone in small boluses. If the nerve is blocked, immediately the C-MAP disappears, even using a stimulating current up to 10/12 mA.

RESULTS

985 patients out of 1132 were evaluated at a median follow-up of 87.9 months.147 of them were lost at follow-up, unwilling to repeat the procedure due to a poor outcome, pain or other reasons. The mean VAS before the procedure was 7.8 (10-5.5) with an average duration of the pain of 36.8 months (6-180). The average number of infiltration procedures was 4, ranging from 2 to 6. The mean VAS at follow-up time was 3.48 .We considered a successful result a decrease in VAS more than 50% and an intermediate result a decrease of at least 3 points in VAS score with reduction of painkiller drugs, lasting at least 3 months. 676 patients out of 985 (68.6%) had a successful result. Responders had a complete relief of pain for about 36-48 hours, a mild flare up of pain during the next 3 to 4 days and then a relief up to complete wellness for about 30 to 180 days. The subsequent blocks were made at 4 to 6 weeks interval, after a clinical reassessment of the patient and an evaluation of the VAS and Pain Card, until a complete recovery or stabilization of pain to an acceptable level was obtained. The ratio male to female was quite different compared to literature data.

INTERPRETATION OF RESULTS

The use of pudendal nerve blocks for treating pudendal neuralgia was popularized in early 90's by Maurice Bensignor in Nantes: he used a series of 3 injections around the pudendal nerve reporting a 70% improvement in his patients with no mention about symptoms follow up. Amarenco reported a 15% of success using CT guided blocks, Robert indicated divergent results in 2 papers published in 1998 with success rates ranging from 20 to 65-70%. Labat reported 60% of success with a short follow-up of 3 months. Recent papers suggested new techniques for approaching the pudendal nerve: transperineal, transvaginal, US guided or TC guided. However, those techniques have some limitations, such as high cost,

difficulty to perform in every day practice, inaccurate or unreliable results in some case. Furthermore, as reported by Antolak, block can fail if drugs are not placed close to the nerve and, in his opinion, complete accuracy is not possible with any injection technique available but neurophysiology. To overcome these limitations, we used this neurophysiological pudendal block technique with a posterior approach with the aim to do better in terms of results and costs. Accuracy in detecting nerve position and drug mixture delivery is higher than all other available technique : a "functional approach for a functional disease". Results are very interesting in terms of success (68.6%), average follow-up (> 10 years) and procedure costs. Satisfaction rate of patients was quite high (86% of patients would have recommended the procedure to a friend or relative). The strongest aspect of the study is the number of treated patients, a minimally invasive approach associated with high accuracy of drugs mix delivery very close to the nerve and one of the longest follow up in current literature at our best knowledge. Percentage of patients effectively treated and consistency of its number is quite high compared to the others reported in literature. The key point of this success is, in our opinion, the way we find the nerve nerve and how we deliver drugs, under neurophysiology guide: they represent the more accurate way to perform a PNB.

CONCLUSIONS

Guided pudendal nerve blocks represent the first line of diagnosis and minimally invasive treatment for pudendal neuralgia, usually associated with oral drugs and/or physical therapy. They are performed to make a diagnosis of pudendal neuralgia, for its prognostic value (the longer the pain relief after the block, the better the expected result) and also for its therapeutic effect. Our technique allows an accurate delivery of drugs mixture as closer as possible to the affected nerve using a easy neurophysiologic approach with good results and low costs, avoiding more invasive and expensive therapies. New drugs and stem cells are going to be introduced to improve results in the treatment of pudendal neuralgia even though classic PNB still represent the gold standard for the initial diagnosis and therapy of pudendal neuralgia.

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38 - ANATOMICAL OUTCOMES OF DAVYDOV MODIFIED TECHNIQUE IN PATIENTS WITH MAYER-ROKITANSKY-KÜSTER-HAUSER SYNDROME: A CASE SERIES

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INTRODUCTION AND AIM OF THE STUDY

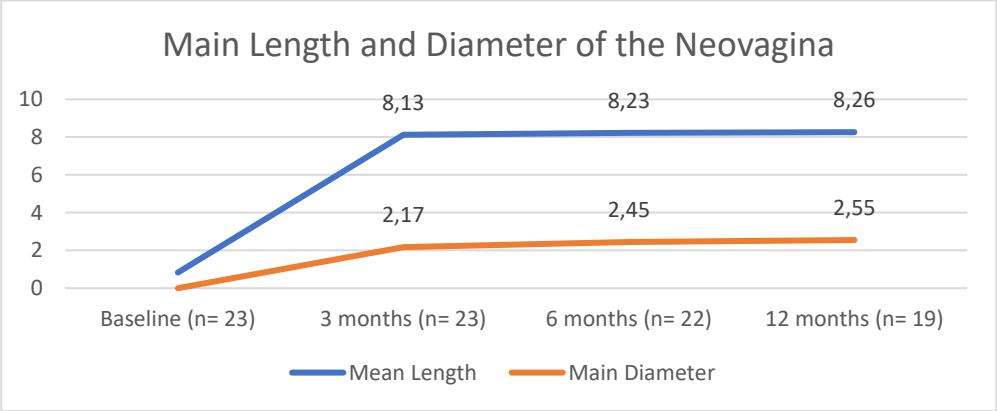
Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome is a rare congenital disorder with an estimated prevalence of 1 in 5000 live female births [1]. The disease is characterized by uterine and vaginal agenesis in women with a normal female karyotype (46, XX) and normal secondary sexual characteristics [1]. In this condition It is still controversial if the best management approach, aiming to achieve a satisfactory sexual life, is conservative or surgical. The modified Davydov technique is a surgical procedure that utilizes a combined laparoscopic and vaginal approach to create a neovagina in patients diagnosed with MRKH syndrome [2]. In our unit we strongly believe in the surgical treatment. This study aims to evaluate the neovagina anatomy in young women operated with a modified Davydov procedure at 1 year follow-up.

MATERIALS AND METHODS

We enrolled patients with MRKH syndrome who underwent the laparoscopic modified Davydov technique from January 2020 to June 2022. We compared the morphological results (length and diameter) of the neovaginas before and at 3, 6, and 12 months after surgery. All patients were instructed to use vaginal dilators covered by an estrogen-based gel for two hours daily.
Continuous variables were reported as mean and standard deviation, while categorical data were presented as absolute numbers and percentages.

RESULTS

We enrolled 23 patients, all of whom had at least 3 months of follow-up, and 19 completed 1 year of follow-up (Table 1). Fourteen patients had two non-cavitated rudimentary uterine horns (60.9%). The mean age of our patients at the time of surgery was 18.3 ± 3.0 years. The mean length of the vaginal fovea was 0.8 ± 0.3 cm before surgery. The main duration of surgery was 79.3 ± 27.4 minutes, and only two patients had surgical complications (8.8%). The mean length of the neovagina three months after surgery was 8.1 ± 0.8 cm, while the main diameter was 2.1 ± 0.2 cm. After six months of follow-up, the main length and diameter of the neovagina were 8.2 ± 1 cm and 2.4 ± 0.4 cm, respectively. One year after surgery, our patients had a neovagina with a mean length of 8.2 ± 1.0 cm and a mean diameter of 2.5 ± 0.3 cm (Figure 1). At the same time, more than half of our patients (12, 63.2%) who reached one year of follow-up showed complete epithelization of the neovagina.



All considered data for each single patient are described in table 1.

INTERPRETATION OF RESULTS

In our case series, the modified Davydov technique showed to be an effective and safe surgical technique for obtaining a neovagina in patients with MRKH syndrome with very limited surgical complications. In particular, one patient had a vaginal laceration /during the use of vaginal dilators) that was treated surgically, and one patient had a perivaginal effusion that resolved spontaneously after a few weeks. After 12 months, we obtained optimal morphological results, as the neovagina had a mean length of 8.2 cm and a mean diameter of 2.5 cm. Complete epithelization of the neovagina was observed in 63.2% of patients.

CONCLUSIONS

In our experience, the modified Davydov technique seems to be an effective and safe approach for the treatment of vaginal agenesis in patients with MRKH syndrome.

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N.	Age	Rudimentary Uterine Horns	Other abnormalities	Age at Diagnosis	Age at Surgery	Duration of Surgery (min)	Surgical Complications	Lenght of VF at Baseline	Days of Hospitalization	NVL at 3 months (cm)	NVL at 6 months (cm)	NVL at 12 months (cm)
1	23	Two non-cavitated		16	21	62	Vaginal tearing	1.0	15	8x2	9x2.5	9x2.5
2	19	None		16	17	66		0.5	7	8.5x2	8.5x2	8.5x2
3	20	Two non-cavitated		16	19	129		0.5	6	9x2	9x2.5	9x2.5
4	20	None	Scoliosis	17	19	68		0.5	6	8x2	5x2	
5	20	None	Scoliosis	17	19	66		0.5	6	8x2	8.5x2	
6	18	None	Scoliosis	16	17	121		0.5	6	8x2	8x2.5	8x3
7	20	One non-cavitated	One kidney	16	17	71		0.5	6	8x2	9x3.5	6x2.5
8	20	None	Scoliosis	17	18	55		0.5	6	8x2	8x2.5	7x2.5
9	32	None		17	30	71		1.0	7	7.5x2.5	8x2.5	8x2.5
10	18	Two non-cavitated		15	16	45		1.0	8	9x2	9x2.5	9x2
11	19	Two non-cavitated		16	17	60		1.0	7	8x2	9x2.5	9x2
12	18	Two non-cavitated	Scoliosis	15	16	66		1.0	6	7x2.5	7.5x3	8x3
13	21	One non-cavitated		13	19	77		0.5	5	11x2	10x2.5	11x2
14	21	Two non-cavitated		16	19	61		1.0	5	7x2		
15	17	Two non-cavitated	Scoliosis, Cardiac Abnormalities	15	16	97		0.5	6	7.5x2	7.5x3	7.5x3
16	17	Two non-cavitated	Scoliosis	14	15	60		1.0	6	7x2.5	7x2.5	8x2.5
17	19	None		17	18	85	Perivaginal effusion	0.5	8	9x2.5	9x2.5	9x3
18	20	Two non-cavitated	One kidney	15	17	124		0.5	9	8x2.5	8x2.5	8x3
19	19	Two non-cavitated	Hypoacusis	9	16	73		1.0	9	9x2.5	8x3	8x3
20	24	Two non-cavitated		14	21	154		0.5	6	8x3	9x3	
21	21	Two non-cavitated	Scoliosis	18	20	85		1.5	6	8x2	8x2.5	8x2.5
22	18	Two non-cavitated		17	17	66		1.5	6	7.5x2	8x2	8x2.5
23	19	Two non-cavitated		17	18	62		1.5	6	8x2	8x2.5	8x2.5

Table 1

VF: Vaginal Fovea

NVL: Neo-vaginal length

39 - A SYSTEMATIC REVIEW AND META-ANALYSIS ON THE USE OF ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOLS IN PELVIC FLOOR SURGICAL PROCEDURES

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INTRODUCTION AND AIM OF THE STUDY

Enhanced Recovery After Surgery (ERAS) protocols have been proposed as a tool for the improvement of clinical outcome of surgical patients. They have been related to a signficant reduction in length of hospital stay (LOS) and in overall improvement of the recovery quality of patients. We aim to evaluate the effect of ERAS protocols in the intra- and postoperative course of patients with pelvic floor disorders who received surgical management of their disease.

MATERIALS AND METHODS

A systematic search of 3 electronic databases was performed for articles published up to January 2023. Our search terms included “enhanced recovery after surgery”, “ERAS”, “pelvic organ prolapse”, “pelvic floor reconstructive surgery”, “urogynecology”, “sacrocolpopexy”. Studies that evaluated the effect of implementation of ERAS protocols in patients who underwent pelvic floor reconstructive surgery were considered eligible for inclusion. The comparative arm was consisted of patients with standard perioperative care (no-ERAS group) and were either historical or consecutive controls.

RESULTS

A total of 6 studies that reported outcomes of 1.153 women were finally included in the analysis. Among them, 553 women were managed with the ERAS protocols, whereas the remaining 600 received standard perioperative care. Length of stay (LOS) was significantly reduced in patients of the ERAS arm compared to control (mean difference (MD), -16.17 hours; 95% CI, -24.07 to -8.26 hours; $p < 0.0001$) while an increased proportion of women from the ERAS group were discharged within 24 hours postoperatively (risk ratio (RR), 3.08; 95% CI, 2.00-4.75; $p < 0.00001$). Operative time, estimated blood loss, complications, and readmission rates did not differ among the two groups.

INTERPRETATION OF RESULTS

The implementation of ERAS protocols resulted in favourable outcomes in terms of length of hospital stay and early hospital discharge.

CONCLUSIONS

Our analysis revealed the impact of ERAS on the perioperative course of surgical patients with pelvic floor disorders. However, further studies are warranted in the field to identify those key components of ERAS protocols that could be specifically applicable to urogynecologic populations.

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40 - MINIMALLY INVASIVE PULSED RADIOFREQUENCY (PRF) NERVE ABLATION IN THE TREATMENT OF CHRONIC PELVIC PAIN DUE TO PUDENDAL NEURALGIA

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INTRODUCTION AND AIM OF THE STUDY

Pudendal neuralgia is caused by inflammation, compression and traction of pudendal nerve. It may be associated with childbirth, strenuous exercise, perineal trauma, infections of urogenital tract and is also connected to age-related changes. Currently, the clinical treatments of pudendal neuralgia include drug therapy, pudendal nerve block (NB), pudendal nerve decompression, nervous regulation by implanted or peripheral pulse generators, spinal cord electrical stimulation and more. The aim of this prospective study was to investigate the feasibility and to report the results of a new procedure for the treatment of persistent and resistant pudendal neuralgia. It consists of pudendal nerve pulsed radiofrequency (PRF) ablation under neurophysiological guide and local anesthesia with a posterior trans-gluteal approach. Recent literature suggests that PRF is effective for the treatment of refractory neuropathic pain in other districts and so far, there is a lack of effective therapies to treat unresponsive chronic pelvic pain syndromes due to a pudendal neuropathy, most of them being quite invasive and costly.

MATERIALS AND METHODS

27 patients (16 F, 11 M, mean age 42.2 years) out of 37 affected by pudendal neuralgia and meeting Nantes criteria, not responsive to 3-months conservative drug therapy and relapsing after a successful nerve block, were clinically evaluated with VAS score, validated SF-36 questionnaire, physical examination and pudendal neurophysiological study (SSEPs and BCR). They underwent first to a pudendal nerve block on the side where neurophysiological and physical evaluations were pathological and patients who had a complete relief of pain for at least 48 hours after the block were eligible to undergo a pudendal nerve pulsed radiofrequency ablation. PRF was delivered after the nerve was identified at 1mA intensity current and a replicable and a consistent C-MAP was found. We used a 2 Hz, 42 ˚C, 150 seconds protocol for nerve ablation, followed by 60 more seconds PRF delivery, 2 minutes after the first one. PRF wes carried out under local anesthesia and on an outpatient basis. Follow up evaluation was scheduled at 3 months interval, with the incidence of pain recurrence (VAS > 5) as primary outcome measure for a further PRF treatment. At the end of each procedure, the VAS score was 0.

RESULTS

23 patients out of 27 (85,1%) had a significant and persistent improvement of pain (ranging from 70 to 100%) after PRF treatment, with no side effects or complications at a mean follow up of 19.4 months. No one had any impairment on motility or paraesthesia of the sciatic nerve. Two patients underwent a second PRF treatment in 2 months time because of relapse of pain with a VAS > 5/10. 10 patients completely stopped their drug therapy in 3 months after the PRF. VAS score and SF-36 both improved (VAS: 2.26. vs 8.44 - SF- 36: 85.06 vs 46.2) at 12 months follow up and satisfaction rate of patients was 96% (almost all would have recommended the procedure to a friend or relative). Patients not undergoing PRF because not confident about the procedure (n=10), they continued on medications and 3 of them had more pudendal nerve blocks to control pain in association with drugs.

INTERPRETATION OF RESULTS

Basically, there are two interesting aspects of this study. The first is the number of patients and in current literature, only one study has a higher number of treated patients (1). The second is the neurophysiological guide to target the nerve, assuring a very sharp delivery of energy in its close proximity, bypassing all possible failures related to the nerve anatomical variability (2). Clinical result is intriguing as most of the patients had almost a complete relief of pelvic pain lasting 6 months or more after one or two treatments. This technique is not only effective but also cost and time saving, because performed under local anesthesia, on outpatient basis and ,mostly, well accepted by the patients. Almost all of them were able to stop the drug therapy at 6 months follow up and the procedure was easily and safely performed again in those patients failing the first procedure. It represents the ideal tool to treat patients affected by a long-lasting and non responsive chronic pelvic pain . The neurophysiological guide represents the most original part of this study because,at our best knowlwdge, there is no evidence in the current literature of PRF pudendal nerve ablation using the neurophysiology guide to target the nerve. It improves for sure accuracy and efficacy of the procedure with great anatomical proximity of the thermal probe to the nerve, utilizing at the best both thermal and electromagnetic properties of PRF.

CONCLUSIONS

The ideal and definitive clinical treatment for pudendal neuralgia has not yet been determined, even though PRF performed under neurophysiology guide represents,in our opinion, the future of minimally invasive therapy of chronic pelvic pain due to a pudendal neuropathy. It could be the mid-step between initial conservative therapy and the more invasive sacral root neuromodulation or pudendal nerve surgery. In association with neurophysiology guide, it represents a revolutionary minimally invasive therapy, cheap, effective and carried out on outpatient basis in 30 minutes. Compared to pudendal nerve block, PRF gives more or less the same result in terms of pain control, but with a long lasting efficacy up to 6 or more months. It improves not only pain but also the quality of life of patients. Even though our patient's sample size is not big enough to draw definitive conclusions , it represents, at our knowledge, the second most numerous clinical record in current literature and brings something new in the chronic pelvic pain therapy scenario, in terms of technique and clinical experience.

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41 - PREVALENCE OF PELVIC FLOOR DYSFUNCTION IN WOMEN WITH ENDOMETRIOSIS

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INTRODUCTION AND AIM OF THE STUDY

Endometriosis is a chronic inflammatory disease that afflicts women in the reproductive age whose estimated total prevalence is 5-10%. Endometriosis can be classified into superficial, ovarian or deep endometriosis (DIE, Deep Infiltrating Endometriosis). In DIE, endometriotic implants penetrate the pelvic structures causing adhesions and anatomical changes. DIE is known to impair evacuation function, probably due to neurotropism expressed by endometriotic cells and the subsequent pelvic inflammatory state that it could affect the nerve endings. Furthermore, deep endometriotic implants can also be associated with a hypertonic or "nonrelaxing" pelvic floor muscle (PFM) dysfunction Muscle, causing hypertonia, spasm, loss of strength and coactivation of the PFM. Hypertonic dysfunctions of PFM also lead to an increase in pelvic pain and sexual dysfunction[1]. In recent years much has been acquired in terms of efficacy and safety with regard to medical treatments and endometriosis surgery. However, it is still unclear whether endometriosis can develop or induce worsening PFD, including lower urinary tract symptoms, fecal incontinence and constipation.
The main objective of the study is to clarify the prevalence of symptoms of PFD in women with endometriosis, object of this abstract, and as secondary objectives: the impact of medical and surgical therapies of endometriosis on disorders of the pelvic floor.

MATERIALS AND METHODS

This is a multi-center, non-profit, approved and funded by the Italian Ministry of Health (ENDO-2021-12371956): "Endometriosis and pelvic floor dysfunction: prospective clinical trial on medical and surgical treatment of urinary, defecatory and sexual function (ENDO-PFD)"; this project is divided into 2 arms: one, aimed at investigating the prevalence of PFDs in women with endometriosis (epidemiological study); the other, distinguished as prospective and retrospective (clinical evaluation study), aiming to evaluate the impact of medical and surgical therapy on PFDs in women with endometriosis, through a clinical evaluation including gynecological visit, transvaginal/transabdominal pelvic ultrasound evaluation, invasive urodynamic examination, anorectal manometry. The study included women between 18 and 50 years of age with a previous diagnosis of endometriosis. Women with BMI over 35, pregnant, with a history of gynecological surgery other than endometriosis, with previous treatment for pelvic floor disorders were excluded. Using the REDCap software[2], a web-based questionnaire was developed in which participants could decide to participate in the epidemiological study or to participate in the clinical evaluation study. Patients recruited between November 2022 and May 2023. The epidemiological study was a cross-sectional study conducted on the Italian territory; The volunteers signed an electronic consensus (e-Consent) and answered the self-applicable questionnaires: symptoms of the pelvic floor are defined according to the IUGA/ICS terminology for female PFD, patients complete the Pelvic Floor Distress Inventory Questionnaire-20 (PFDI20) that is designed to quantify disorders of the pelvic floor in the three domains: Urinary Distress Inventory (UDI-6), Colorectal-Anal Distress Inventory (CRADI-8) and Pelvic Organ Prolapse Distress Inventory (POPDI-6). The score for each scale were stratified into the following groups: no symptoms (score:0), mild (score: 1–33), moderate (34–66), or severe (67–100)[3], for this study only the moderate and severe values were considered and the POPDI-6 subscale was excluded, as we considered that the questions could be misinterpreted by endometriosis patients; the Female Sexual Function Index (FSFI) that is consisting of 19 multiple-choice items assessing female sexual function (score 2 to 36, sexual dysfunction < 26,55); Endometriosis Health Profile Questionnaire (EHP-30) for the evaluation of quality of life in endometriosis (score 0 to 100, where the lower the score, the better the quality of life). For the investigation of symptoms intestinal symptoms, the Wexner scale for constipation with a total score of 1 to 5 mild, 6 to 10 moderate, 11 to 15 severe, and 16 to 30 very severe (for this study only the moderate, severe and very severe values were considered) and the Wexner scale for fecal incontinence with a score from 0 (perfect continence) to 20 (severe fecal incontinence).

RESULTS

Of the 585 patients enrolled for the epidemiological study, 300 responded to all questionnaires, with a response rate of 51.2%; the mean age of respondents was 36.4 ± 7.0 years.
In relation to PFDI-20, the mean CRADI-8 score was 42 ± 20.7 and UDI-6 score was 46.7 ± 24.5. The prevalence for the 2 subscales were: lower urinary tract symptoms (UDI-6) 52.7% moderate and 12.3% severe symptoms and recto-anal symptoms (CRADI-8) 40.7% moderate and 20.3% severe symptoms, associated with 30.3% moderate constipation, 28.3% severe and 19.3% very severe, values found with the Wenxer scale. The mean for the Wexner Scale total score for constipation assessment was 10.53 (+/-5.68). The mean for the total score of the Wexner Continence Scale was 2.30 (+/-2.36).

Regarding EHP-30, the lowest median score was found for the Pain subscale, 35.2 ± 26.6, while the highest mean scores were found for the subscales Self-Imagination and Social Support, 55 ± 29 and 55.8 ± 30.4, respectively. For the other subscales, the mean score of the subscale of Emotional Wellbeing was 49.9 ± 23.5 and that of the subscale of Control and Powerlessness was 49.8 ± 30.4, associated with sexual dysfunction with a low total FSFI score, mean 17.9± 9.2, the prevalence of sexual dysfunction was 81%.

INTERPRETATION OF RESULTS

Endometriosis is a disease that can modify quality of life of woman for the disabling painful symptomatology to which it can be associated, including pelvic floor disorders. Our data confirm the presence of pelvic disorders in almost all of the women with endometriosis participating in the study.

CONCLUSIONS

This study found a high prevalence of PFD in women with endometriosis, which reveals that for the management of endometriosis it is urgent to insert pelvic floor rehabilitation as well as sexual dysfunction monitoring and quality of life issues.

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42 - CURRENT TREND IN GENDER AFFIRMING SURGERY FOR TRANSGENDER WOMAN - THE GYNECOLOGIST'S PERSPECTIVE

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INTRODUCTION AND AIM OF THE STUDY

Gender affirming surgery (GAS) is surgical procedure designed to change physical characteristics to match someone's gender identity. Vaginoplasty is a type of GAS performed for transgender women who desire feminizing genital reconstruction and have a "Gender Identity Disorder" or "Gender Dysphoria". Approximately 44 million individuals worldwide are diagnosed with gender dysphoria, and with increased advocacy, acceptance, and access to care. Patients seeking GAS must have well documented gender dysphoria and be mentally, physically, and socially ready for surgery. General public is recently more and more accepting treatment of patients with gender dysphoria and surgical treatment for especially male-to-female transgender is performed worldwide. Every doctor should follow guidelines by the World Professional Association for Transgender Health (WPATH), which was established for diagnostics and treatment of transgender patients. For those patients choosing a full depth procedure, most surgeons perform a modification of the penile inversion technique (PIV) using genital or extragenital skin grafts to line the neovaginal cavity. The procedure is performed by reconstructive surgeons specializing in Plastic and Reconstructive Surgery, Urology, or Gynaecology. Alternatively, a peritoneal flap or "pull-through" procedure can be performed. Bowel vaginoplasty remains an option for some patients, and is performed by some surgeons, more often in secondary revision cases.
The aim of our systematic review was to comprehensibly check the data of GAS, focus on PIV, point out outcomes and see the satisfaction rate in transgender patients after the procedure. Through our SR we tried to reveal gaps in the current literature, which will be basis for further research, and to evaluate gynecologist's knowledge in the field of transgender medicine.

MATERIALS AND METHODS

A systematic review (SR) was registered in PROSPERO international database (Nr: CRD42023417456) and conducted on the Medline, Scopus, and Cochrane Library databases, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement, available through the Enhancing the Quality and Transparency Of Health Research (EQUATOR) Network. We screened articles published from inception until the date of the formal search.

RESULTS

A total of 825 unique records were screened and 776 duplicates were removed. After title and abstract screening, 137 articles moved onto full-text screening. Of these, 34 studies meet inclusion criteria and were pooled for quantitative synthesis.
Overall, this SR included studies which explored various aspects of PIV with various outcomes measured by their authors. Most were retrospective cohort studies while only one prospective study could be found. Many studies featured small sample sizes. Assessments focused on objective measures such as depth and width of neovagina, postoperative complications and patient satisfaction. Multiple studies examined factors affecting the success of PIV, as well as outcomes specific to transgender individuals such as satisfaction with body image and sexual function post-surgery.

INTERPRETATION OF RESULTS

"Vaginoplasty" itself is a misnomer, as the actual vaginoplasty procedure is only performed in patients who desire the creation of a "full depth" functional vagina. For those patients choosing a full depth procedure, most surgeons perform a modification of the PIV. According to this SR, patients reported being very satisfied with the surgical outcomes with significant increases in quality-of-life improvement from surgery. But it should be remembered that the results of this SR are limited due to high degree of heterogeneity among included studies and lack of standard outcome measures, making comparing outcomes across studies difficult. More research needs to be conducted in order to establish long-term functional and cosmetic results of PIV as well as assess how other factors such as age, BMI and hormonal therapy affect surgical results. Furthermore, it's vital that further research should compare other techniques of GAS - vaginoplasties with PIV. It is necessary for gynaecologist to increase understanding of transgender women's experiences. Moreover, gynaecologists may become better positioned to offer tailored care that addresses each of their unique needs. GAS must always be followed by informed consent framework that places patients first – further research can facilitate this process. Overall, this SR revealed that PIV is an efficient and safe option for GAS boasting high patient satisfaction rates with relatively few complications when performed by experienced surgeons. However, standardized nomenclature reporting of adverse events and robust patient-reported outcome measures (PROMs) are lacking. PROMs are a powerful assessment tool, and standardized definitions of adverse events and functional outcomes should be a priority of future research. This review also stressed the significance of undertaking preoperative psychological evaluation and counselling to ensure

patients are psychologically ready to undergo their procedure and have realistic expectations about its results. Furthermore, this review identified a need for further study on long-term outcomes related to sexual function and sensation.

CONCLUSIONS

Literature evidence highlights fairly consistent outcomes and high satisfaction rates associated with PIV. Even with potential complications and limitations, PIV remains an extremely successful and popular GAS option for transgender women. On the other hand, there is a demand for GAS and an issue to note is that gynaecologists are in a lack of proper medical training in this field. As more transgender and non-binary people seek healthcare services that require knowledge of their unique anatomy, it is critical to ensure that gynaecologists receive sufficient training so they can provide safe and respectful care. At present, there is no mandated training requirement for gynaecologists to perform GAS; thus leaving many providers feeling unfamiliar and uncertain of these processes. To meet this need, more education and certification programs in our field would ensure that gynaecologists will possess all of the knowledge and abilities to deliver inclusive and affirming care to all transgender patients.

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43 - 1-YEAR HISTOLOGIC OUTCOMES AFTER CO2 LASER TREATMENT FOR GENITOURINARY SYNDROME OF MENOPAUSE: UNVEILING FIBROSIS AND ANGIOGENESIS.

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INTRODUCTION AND AIM OF THE STUDY

Genito-urinary syndrome of Menopause (GSM) can lead to various distressing symptoms such as vaginal dryness, itching, painful intercourse, and urinary incontinence. These symptoms significantly impair a woman's quality of life, sexual satisfaction, and overall self-confidence.

CO_2 laser treatment is an option for GSM-management, as it represents a non-hormonal alternative for women who are unable or unwilling to undergo hormone therapies. This minimally invasive procedure stimulates collagen production, improves blood circulation, and enhances tissue elasticity, thereby restoring the vaginal health and function

However, questions regarding the actual duration of these effects on the vaginal tissue, as well as the possible development of fibrosis in the medium-long term, are still a matter of debate.

With this study, we aimed to evaluate the histological outcomes of the vaginal mucosa one 1 year after fractional CO_2 laser vaginal treatment for GSM.

MATERIALS AND METHODS

After approval of the local Ethical committee, patients scheduled for CO_2 vaginal laser for GSM have been recruited for histological evaluation of the outcomes, 1 year after starting the laser therapy.

The treatment protocol consisted of intravaginal therapy once a month for 3 months, with CO_2-Laser system (SmartXide2V2LR, Monalisa Touch, DEKA, Florence, Italy). The settings and procedures were performed according to a standard protocol.

One-year tissue samples were collected in an office setting from the same anatomical locations through punch-biopsies. The collected tissue samples were submitted to histologic evaluation to assess fibrosis and vascular changes.

The epithelial thickness was always measured by averaging three measurements taken 150 micrometers apart.

Biopsies of the vaginal mucosa were immediately immersed in a 4% paraformaldehyde/sodium phosphate 0.1 M buffer solution for 24 hours and then processed (dehydration, paraffin embedding, and sectioning) for optical microscopy. Special attention was given to the embedding phase of the biopsy samples to ensure that the cutting plane of the microtome was orthogonal to the epithelial surface, thus avoiding incorrect measurements of epithelial thickness in the case of oblique sections. Sections of each sample were stained with Hematoxylin and Eosin (H&E) for measuring the epithelial thickness and identifying and evaluating the papillae. Masson's trichrome staining was used to identify collagen (reticular and fibrillar collagen in dense connective tissue), and immunohistochemical (IHC) staining was performed to demonstrate CD34-positive cells (CD34+) (endothelial cells and stem cells committed to endothelial cell differentiation) to evaluate blood vessels in the connective tissue (indicating the absence of fibrosis) and within the neoformed papillae. Weigert Van Gieson staining was also conducted for elastic fibers.

RESULTS

A total of thirteen female volunteers who had received a three-cycle laser treatment and had accrued one year of follow-up were enrolled. After quality control, the tissue specimens of 9 patients (70%) were considered suitable for final histological analysis. Histologic examination of the baseline tissue samples revealed no significant abnormalities in the histological architecture, indicating normal tissue characteristics in all nine patients. Following laser vaginal rejuvenation, the one-year post-treatment specimens exhibited remarkable findings. Notably, there was an absence of fibrosis in all patients, indicating that the laser treatment did not induce long-term fibrotic changes. Instead, the histologic evaluation demonstrated prominent vascular regeneration within the treated areas, suggesting a positive impact of the laser treatment on vascular health. These findings were consistent for the overall series.

INTERPRETATION OF RESULTS

For the first time our results show that one year after fractional CO_2 laser treatment, the vaginal mucosa is trophic and metabolically active, as evidenced by the presence of CD34-positive cells, indicating the absence of fibrosis. Furthermore, well-oriented elastic fibers are observed in the extracellular matrix, indicating elasticity and tissue functionality.

CONCLUSIONS

Our study provides evidence that CO_2 laser vaginal rejuvenation does not lead to fibrosis at 1-year follow-up. On the contrary, the histologic analysis of the one-year post-treatment specimens revealed robust vascular regeneration, suggesting a beneficial effect of the laser therapy on the trophism of the vaginal mucosa. These findings highlight the safety and potential benefits of laser vaginal rejuvenation as a non-invasive treatment option for patients seeking vaginal tissue rejuvenation in the medium-long term and endorse the use of additional maintenance laser treatment after the initial three courses. Additional further analyses are welcome to support our findings.

44 - THE USE OF VAGINAL CO2 LASER IN THE MANAGEMENT OF GENITOURINARY SYNDROME OF MENOPAUSE; A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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INTRODUCTION AND AIM OF THE STUDY

Genitourinary syndrome of menopause (GSM) describes a variety of clinical signs and symptoms that arise from genital and urinary tract and are mainly attributed to the significant decline in estrogen levels during menopausal transition. The management of GSM is consisted of either hormonal or non-hormonal modalities. Recently, the use of microablative fractional CO2 laser has been proposed as an effective and safe therapeutic approach. We aimed to present the outcomes of the meta-analysis of the available randomized controlled trials (RCT) comparing the effect of laser CO2 with sham control in women with GSM.

MATERIALS AND METHODS

A systematic search of 4 electronic databases (MEDLINE, Scopus, Cochrane CENTRAL Register of Controlled Trials, and Clinicaltrials.gov) was performed for articles published up to June 2023. The available RCTs that reported outcomes of patients who received laser CO2 session for the management of GSM, were finally considered eligible.

RESULTS

A total of 7 studies with 407 women (201 Laser CO2 group vs 206 control group) were included in the present meta-analysis. Mean difference in FSFI scores before and after treatment were not different among the two groups (206 patients: mean difference [MD], 3.92; 95% confidence interval [CI], -2.87 to 10.70; $p = 0.26$). However, sensitivity analysis after excluding the study by Mension et al revealed a significant difference in favour of laser group in the reduction of FSFI scores ($p = 0.04$). Neither patients satisfaction nor VAS scores for dyspareunia were found different among the two groups ($p = 0.06$ and $p = 0.37$). Nonetheless, mean difference in VAS scores for the most bothersome symptom were significantly reduced in laser group (164 patients: MD, -0.41; 95% confidence interval [CI], -0.64 to -0.19; $p = 0.0003$).

INTERPRETATION OF RESULTS

The application of laser CO2 resulted in favorable outcomes in terms of improvement of the most bothersome symptom's VAS score after treatment compared with control patients, while the improvement in sexual function seems comparable among the two groups.

CONCLUSIONS

Based on the outcomes of RCTs, the application of laser CO2 could be a promising non-hormonal alternative in the management of women with GSM.

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45 - RISK FACTORS FOR PELVIC ORGAN PROLAPSE RECURRENCE FOLLOWING COLPOCLEISIS: A META-ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common condition which negatively affects quality of life of many women worldwide. Surgical therapies for POP can be defined as either reconstructive or obliterative. The latter is reserved for elderly patients with significant comorbidities who no longer desire to maintain the ability of having vaginal intercourse. The reported recurrence rates of POP following colpocleisis are around 4% 7. Several studies aimed to assess mechanisms and risk factors for POP recurrence following colpocleisis with nonconclusive results. Our aim was to evaluate risk factors and mechanisms for POP recurrence following colpocleisis, based on the currently available literature via a meta-analysis.

MATERIALS AND METHODS

A meta-analysis was conducted after literature review in MEDLINE, PUBMED, Embase, Web of Science and Cochrane Library up to January 2022. Primary outcomes were the effect of post-operative physical examination of genital-hiatus (GH), perineal-body (PB), and total vaginal length (TVL) on recurrence. Secondary outcomes were effect of pre-operative physical examination, patients' demographics, and prior hysterectomy and pelvic organ prolapse surgery on recurrence rates.

RESULTS

A total of 954 studies were identified, of which five studies comprising 2,978 patients were eligible for analysis. Both pre- and post-operative GH length were significantly longer in the recurrence group (mean difference (MD) 0.48 [95%CI 0.01-0.94], P=0.04, I^2=0% and MD 1.15 [95%CI 0.50-1.81], P=0.005, I^2=0%; respectively). While pre-operative TVL did not differ between groups (MD 0.05 [95% CI -0.40-0.50], P=0.83, I^2=6%), post-operative TVL was found significantly longer in the recurrence group (MD 0.07 [95% CI -0.03-1.38], P=0.04, I^2=68%). Both pre- and post-operative PB did not differ between groups. Women with a previous POP surgery were more likely to experience recurrence following colpocleisis (RR 2.09 [95% CI 1.18-3.69], P=0.01, I^2=0%). Patient's age and prior hysterectomy did not affect recurrence rates.

INTERPRETATION OF RESULTS

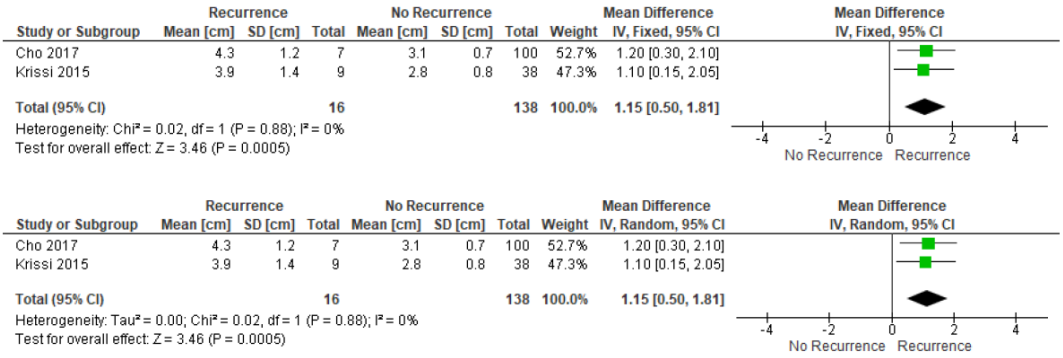
Reoperation on patients following colpocleisis may be challenging and should therefore be avoided as these are generally elderly women with multiple comorbidities and high operative risk. The findings presented in the current meta-analysis may be useful for both surgeons and patients with regards to surgery planning, patient selection and preoperative consultation. The fact that a wider post-operative GH was found to be associated with higher recurrence rates may imply that introital narrowing by means of performing a perineorrhaphy may reduce recurrence rates following colpocleisis. The fact that a wider preoperative introital diameter was associated with higher anatomic failure rates suggests that this may be a consideration when selecting patients for surgical intervention. Furthermore, previous POP surgery was also found to be a risk factor for surgical failure which should be taken into account and discussed with patients preoperatively.

CONCLUSIONS

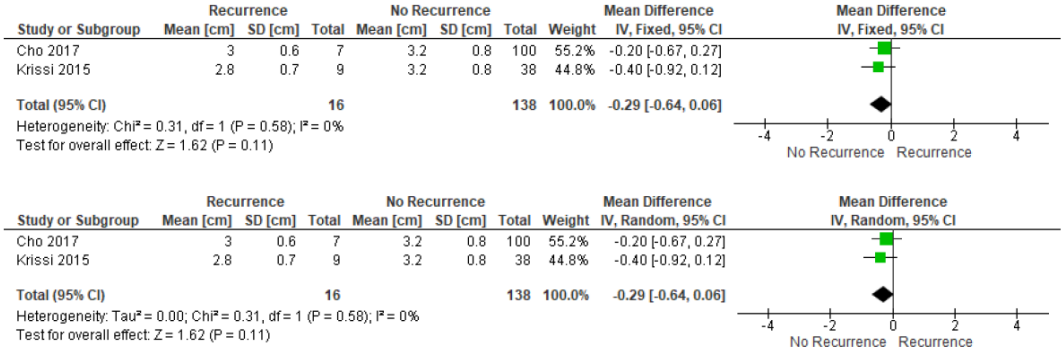
Wider pre- and post-operative GH as well as longer post-operative TVL and previous POP surgery were associated with a higher risk for recurrence following colpocleisis, highlighting the importance of appropriate patient selection and surgical technique in minimizing this risk.

Figure 1

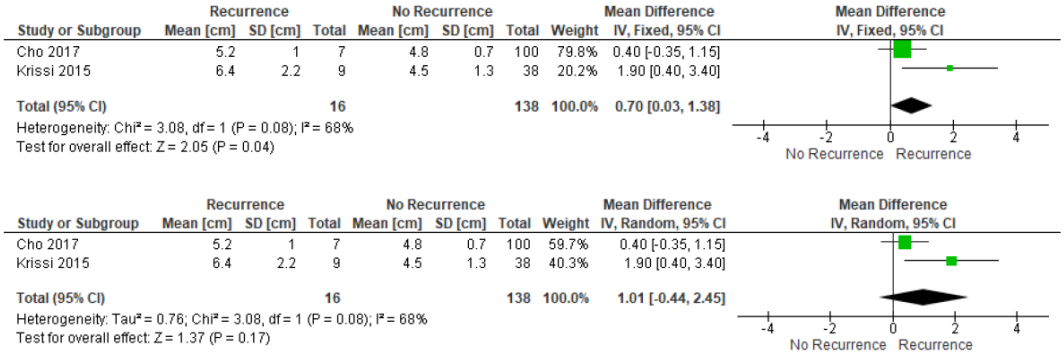
A: Genital hiatus post-operative length



B: Perineal body post-operative length



C: Total vaginal post-operative length



46 - ENHANCED RECOVERY AFTER SURGERY (ERAS) IN PROLAPSE REPAIR: A PROSPECTIVE STUDY ON PREEMPTIVE UTEROSACRAL/CERVICAL BLOCK.

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INTRODUCTION AND AIM OF THE STUDY

In the last years, Enhanced Recovery After Surgery (ERAS) protocols have been introduced in many surgical fields, including gynecology. However, despite recommendations, minimal advancements have been made for ERAS protocols in pelvic floor surgery. Consequently, we aimed to investigate the impact of preemptive uterosacral/cervical block (PUCB) for prolapse repair. Specifically, the primary aim of the study was to evaluate the effectiveness of PUCB for postoperative pain control in patients with symptomatic uterovaginal prolapse undergoing vaginal hysterectomy and pelvic floor repair. The secondary outcome was to evaluate the impact on the length of recovery.

MATERIALS AND METHODS

This was a prospective study. During preoperative counseling, the possibility to undergo a preoperative uterosacral ligament anesthesiology block as part of the ERAS program, and the pros and cons were explained. Patients who chose to undergo uterosacral ligament block were considered as cases, otherwise as controls. After anesthesia induction, the treatment group received an infiltration of 25 ml ropivacaine 0.75% plus 75 µg of clonidine in 5ml - for a total of 30ml solution - and 4 injections of 7.5 ml were performed at 2, 4, 8, 10 o'clock of the cervix. To minimize the risk of intravascular injection, a negative aspiration was always performed. The control group did not receive any additional treatment. Pelvic organ prolapse repair was performed through vaginal hysterectomy plus uterosacral ligaments suspension [1]. Postoperative pain control therapy involved paracetamol and NSAIDs at fixed hours, plus rescue opioids based on pain intensity values. After the surgical procedure, pain intensity was measured with a standard 10-cm visual analog scale (10-cm VAS) - at rest and after forceful cough - at 1, 4, 8, 12, 24, and 48 hours postoperatively. We defined moderate/severe pain as a score ≥ 4 on the VAS scale. Differences were tested using the Wilcoxon signed-rank test for continuous nonparametric data, and Fisher's test for noncontinuous data. A p-value <0.05 was considered statistically significant.

RESULTS

The first 20 patients who underwent PUCB were compared to the first 20 controls since the start of the study, for a total of 40 patients. Groups did not differ for age, BMI, prolapse severity, ASA Physical Status Classification System, and type of anesthesia (general versus locoregional). Absolute pain intensity values are shown in Figures 1 and 2. Specifically, we found a significant reduction in pain values at 1 hour (rest and forceful cough) and 24 hours (forceful cough) in PUCB group. Moreover, the incidence of moderate/severe pain was inferior in PUCB group at 1 hour (rest) and 24 hours (rest and forceful cough). On the contrary, there were no differences in terms of the use of rescue opioids and length of hospital stay.

INTERPRETATION OF RESULTS

Most local anesthetics are characterized by short or very short half-life time. Clonidine, a selective partial alpha 2 adrenergic agonist has been shown to extend the sensory blockade even in very small doses with negligible side-effects. Our study demonstrated for the first time that ERAS protocol in urogynecology may reduce pain even after 24 hours from the surgical procedure. Pain reduction might favor early mobilization, enhance recovery, and reduce hospital stays - and affects costs and complications related to prolonged hospitalization.

CONCLUSIONS

Our study demonstrated for the first time the impact of preemptive uterosacral/cervical block on pain control up to 24 hours after surgery. The use of a sensory blockade extender looks promising in enhancing the efficacy of local anesthetics. However, investigations on larger populations are necessary to draw definitive conclusions.

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Figure 1

Absolute postoperative pain intensity according to VAS scale, at 1, 4, 8, 12, 24, and 48 hours after surgery.
PUCB: preemptive uterosacral/cervical block

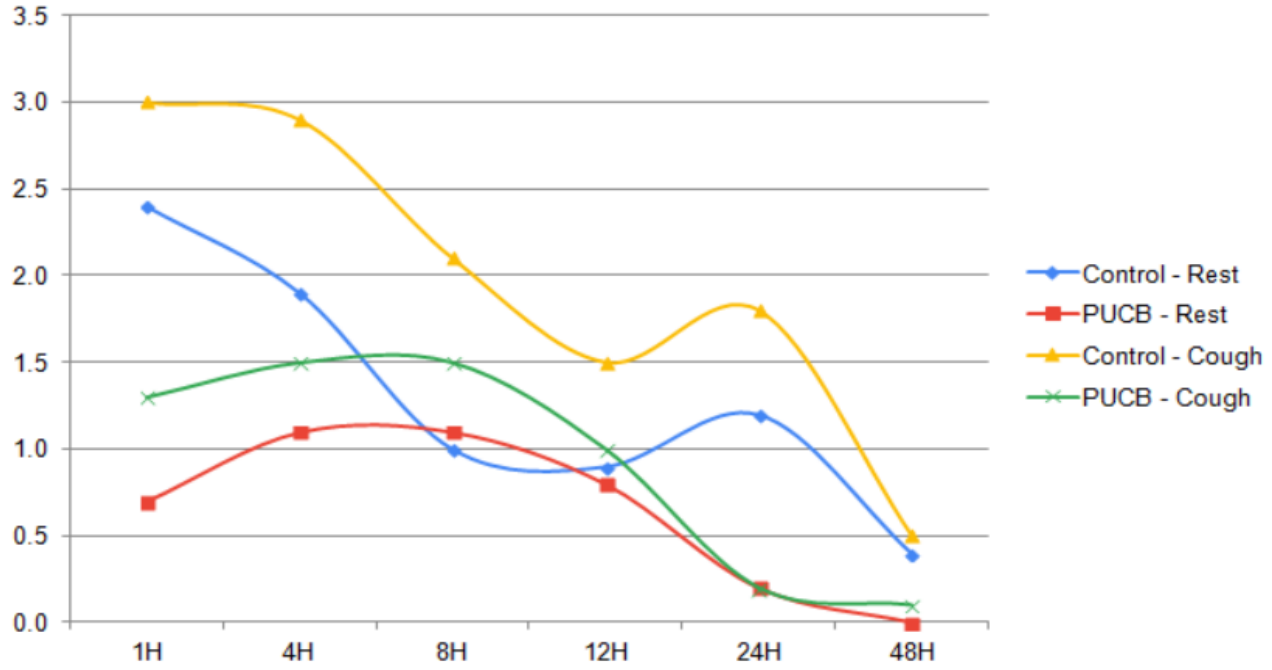
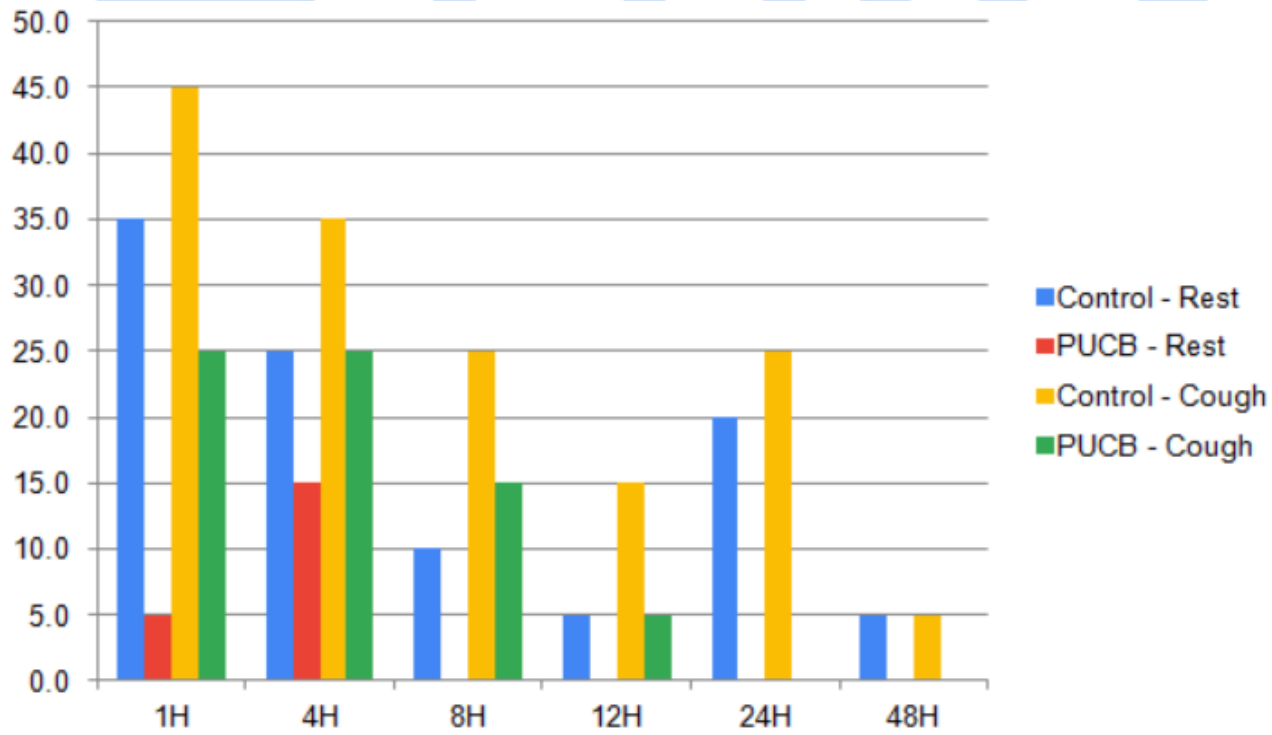


Figure 2
Rate of patients with moderate/severe pain intensity according to VAS scale (≥4), at 1, 4, 8, 12, 24, and 48 hours after surgery. PUCB: preemptive uterosacral/cervical block



47 - VAGINAL PACKING AFTER LAPAROSCOPIC SACROCOLPOPEXY: POSTOPERATIVE PAIN AND INFECTIOUS COMPLICATIONS – A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Vaginal packing following vaginal reconstructive surgery is becoming a well explored topic, however, no recommendation regarding vaginal packing after laparoscopic reconstruction exists. Despite little data supporting the practice exist, purported benefits include better positioning and fixation of the mesh, improving incorporation of the mesh by its fixation and reduced blood loss. However, patients may complain of discomfort associated with the packing or its removal. The aim of this randomized controlled trial was to compare the subjective impressions of pain and satisfaction in women undergoing laparoscopic sacrocolpopexy treated with and without packing. The secondary aim was to assess differences in postoperative bacteriuria and hemoglobin levels on day 5 after the surgery.

MATERIALS AND METHODS

This randomized controlled trial evaluating the effect of vaginal packing after laparoscopic sacrocolpopexy on early postoperative pain, satisfaction and bacteriuria was conducted in the study period November 2016 – June 2022. All women that underwent a laparoscopic sacrocolpopexy without suburethral sling surgery for pelvic organ prolapse stage > 2 according to POPQ were considered eligible for enrollment. Women undergoing any other surgery, concomitant vaginal surgery or where vagina was opened during the surgery (e.g. during concurrent hysterectomy), were excluded from the study. Other exclusion criteria included clotting disorders, anticoagulant use as well as vaginal, uterine or ovarian malignancy. In addition, women with lost or incompletely filled pain questionnaire were excluded from the early postoperative analysis presented in this abstract. After signing the informed consent, the women underwent a complex urogynecologic examination including quality of life assessment and pelvic floor ultrasound. The enrolled women were randomized at the end of the surgery using envelope method and were blinded regarding the allocated group until day one after the surgery. The surgical technique remained constant for the study period and was performed by four surgeons. Postoperative pain was managed equally regardless of allocated group according to a standard clinical protocol. The day after the surgery before potential extraction of the pack, the women were asked to complete the McGilll pain questionnaire. Patient satisfaction was evaluated on postoperative day 1 and 4 using VAS. Urine culture and blood count was taken on postoperative day 5. All data were stored and collected using a clinical database and evaluated by the following statistical analyses: Wilcoxon pair test, $\chi 2$ test, Kruskal-Wallis test, Fisher exact test, Median Two Sample test, where p value under 0.05 was considered statistically significant. The study design followed the CONSORT guidelines, was preregistered in clinicaltrials.gov registry and approved by the local ethics committee before its commencement.

RESULTS

A total of 620 sacrocolpopexies were performed in our department in the study period and 503 women were enrolled in the study and randomized. The McGill pain questionnaire was completed by 274 women and these were included in the early postoperative analysis. There were no differences between the groups regarding uterine preservation during the sacrocolpopexy; 92 women were already after a hysterectomy, 138 women underwent a concomitant supracervical hysterectomy and the uterus was preserved in 44 women. Vaginal pack was inserted in 132 (48%) women. The groups did not differ in basic preoperative characteristics nor surgical characteristics including duration of the surgery, estimated blood loss, Redon drainage insertion and perioperative complications. The blood count parameters were comparable. The comparison of pain assessment has shown very low values of postoperative pain and these did not differ between the groups as demonstrated in Table 1.

Table 1: Comparison of perception of pain after laparoscopic sacrocolpopexy

	No packing n= 142	**Packing n = 132**	**p- value**
PRI-S D1; mean ± SD	1.5 ± 1.7	1.5 ± 1.8	0.399 [a]
PRI-A D1; mean ± SD	0.1 ± 0.7	0.1 ± 0.5	0.472 [a]
PRI-T D1 ; mean ± SD	1.6 ± 2.2	1.6 ± 1.9	0.578 [a]
PPI D1; mean ± SD	2.1 ± 1.0	2.0 ± 1.8	0.989 [a]
VAS pain D1; mean ± SD	3.4 ± 1.9	3.2 ± 1.8	0.330 [b]

PRI-S: Pain rating index - sensory, PRI-A: Pain rating index – affective, PRI-T: Pain rating index – total, PPI: Present pain intensity, VAS: Visual analog scale. [a] Fisher´s exact test. [b] Wilcoxon Two Sample test

Similarly, patient satisfaction with the surgery on day one before pack extraction (7.4 vs. 7.3, NS) nor overall satisfaction on day 5 (8.7 vs. 8.8, NS) did not differ. No differences in the hemoglobin levels or leukocytosis on day 5 were observed. Significant bacteriuria was diagnosed in 15% of women on day 5 after sacrocolpopexy, however, there was no difference between the groups. These were not nosocomial infections as the pathogens included common urinary strains such as E.Coli (21%), Enterococcus sp. (17%).

INTERPRETATION OF RESULTS

Vaginal packing after laparoscopic sacrocolpopexy is not associated with increased pain or perioperative bother. The pain levels did not even reach the levels of significant pain difference that the trial was originally powered for (Thiagamoorthy 2014) and the patient satisfaction was very high. The prevalence of urinary infection was not affected.

CONCLUSIONS

Laparoscopic sacrocolpopexy is a safe surgery associated with low levels of pain and high patient satisfaction regardless of vaginal pack insertion. Vaginal packing does not seem to do any harm to our patients. The effect on the quality of reconstruction, recurrence rate and quality of life in a one-year follow-up remains to be evaluated.

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48 - OUTCOMES OF TRANSVAGINAL HIGH UTEROSACRAL LIGAMENTS SUSPENSION: OVER 1000-PATIENT SINGLE-CENTER STUDY

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INTRODUCTION AND AIM OF THE STUDY

Currently, there is a renewed interest in native-tissue techniques for prolapse (POP) repair due to lower costs and lack of mesh-related complications. Among native-tissue apical procedures, high uterosacral ligaments (USL) suspension is considered a valid and effective option for central compartment repair. However, most studies about uterosacral ligaments evaluated this technique in limited populations, with limited follow-up, or both. Consequently, we aimed to evaluate the effectiveness, complications rate, and functional results of high USL suspension as a primary prolapse repair technique in a large cohort of patients.

MATERIALS AND METHODS

The data of patients who underwent vaginal hysterectomy followed by high USL suspension for POP between January 2008 and December 2020, were retrospectively analyzed. Preoperative evaluation included a clinical interview to assess the presence of urinary, sexual, and bowel disorders, and dyspareunia. After hysterectomy, USL were bilaterally transfixed in their intermediate portion (at the level of or above ischial spines plane), with 2 or 3 double-needle monofilament polydioxanone 0 sutures [A,B]. Anterior and posterior native-tissue repairs were performed in case of need. Diagnostic cystoscopy was performed at the end of the surgical time in order to assess ureteral bilateral patency. Clinical interview and complete urogenital examination were performed at each follow-up visit. Objective recurrence was defined as descent of any compartment stage II or greater according to the POP-Q system, or reintervention for prolapse recurrence. Subjective recurrence was defined as the presence of bulging symptoms. Patient's Global Impression of Improvement (PGI-I) score was used to evaluate the subjective satisfaction after surgery. $P < 0.05$ was considered statistically significant.

RESULTS

The retrospective chart review identified 1099 patients in the period of interest. Surgical procedures performed, as well as operative data and complications, are shown in Table 1. The total complication rate was 3.4%, with ureteral injury being the most frequent (2.3%). In most cases, ureteral kinking was identified intraoperatively and treated with intraoperative removal of the sutures or stenting. One thousand and fourteen patients were available for follow-up (dropout rate: 7.7%). The mean follow-up was 29 ± 46 months. Anatomical outcomes in terms of recurrence of prolapse and reoperation rate are reported in Table 2. A recurrence in any of the vaginal compartments was observed in 126 patients (12.4%), with the anterior compartment as the most frequent site of relapse (9.7%), while apical recurrence occurred only in 1.9% of women. POP symptoms were bothered by 58 (5.5%) patients. Reoperation for symptomatic POP recurrence or pessary treatment was required in only 9 women (0.9%). Comparison between preoperative and postoperative vaginal profile according to POP-Q system is shown in Table 3. POP-Q outlined improvements in every parameter except total vaginal length, resulting in a shortening of an average of 1.1 cm. Functional outcomes analysis revealed a significant improvement ($p<0.05$) in terms of stress urinary incontinence, urge urinary incontinence, voiding symptoms, constipation, and dyspareunia after prolapse repair.

INTERPRETATION OF RESULTS

To the best of our knowledge, this is the largest study about transvaginal USL suspension for primary prolapse repair. Strengths of our study include the adequate follow-up and the multimodal evaluation with anatomical, functional, and subjective outcomes. Limitations include the retrospective study design and the 7.7% dropout rate that could represent a potential source of bias.

CONCLUSIONS

Uterosacral ligament suspension is a safe and effective procedure in primary surgical treatment of pelvic organ prolapse. Anatomical, functional, and subjective outcomes were very satisfactory, and reoperation rate for recurrence was below 1%.

REFERENCES (max. 3)

[A] Milani R, Frigerio M, Cola A, Beretta C, Spelzini F, Manodoro S. Outcomes of Transvaginal High Uterosacral Ligaments Suspension: Over 500-Patient Single-Center Study. Female Pelvic Med Reconstr Surg. 2018 May/Jun;24(3):203-206. doi: 10.1097/01.spv.0000533751.41539.5b. PMID: 29697546.

[B] Manodoro S, Frigerio M, Milani R, Spelzini F. Tips and tricks for uterosacral ligament suspension: how to avoid ureteral injury. Int Urogynecol J. 2018 Jan;29(1):161-163. doi: 10.1007/s00192-017-3497-y. Epub 2017 Oct 16. PMID: 29038833.

Table 1: Operative data

Anterior repair	952 (86.6%)
Posterior repair	701 (63.8%)
Blood Loss	253 ± 153
Operative Time	105 ± 29
Complications	37 (3.4%)
- Ureteral injuries	25 (2.3%)
- Visceral injuries	3 (0.3%)
- Hemoperitoneum /Hematoma	7 (0.6%)
- Vaginal cuff dehiscence	2 (0.2%)

Table 2: Recurrence pattern

Total	126 (12.4%)
Anterior compartment	98 (9.7%)
Posterior compartment	41 (4.0%)
Central compartment	19 (1.9%)
Prolapse symptoms	58 (5.5%)
Reoperation for recurrence / Pessary	9 (0.9%)

Table 3: Preoperative and postoperative POP-Q comparison

	preoperative	postoperative	p-value
Aa	+1.1	-2.2	<0.001
Ba	+1.4	-2.2	<0.001
C	+0.6	-7.2	<0.001
gh	3.7	3.3	<0.001
pb	2.8	2.9	<0.001
tvl	10	8.9	<0.001
Ap	-1.5	-2.6	<0.001
Bp	-1.5	-2.6	<0.001
D		-	n/A

49 - VAGINAL NATIVE TISSUE REPAIR FOR STAGE 4 PELVIC ORGAN PROLAPSE: IS IT GOOD ENOUGH?

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INTRODUCTION AND AIM OF THE STUDY

Recent trends in pelvic organ prolapse (POP) surgery increasingly favor native tissue repair (NTR), abandoning previously popular vaginal mesh-augmented repair, due to reports on high complication and reoperation rates. Recent studies[1,2] comparing NTR to vaginal meshes in terms of safety and efficacy, have reported comparable outcome using either technique. However, both retrospective and prospective trials have included POP stage 2 and above, while no studies so far have focused on stage 4 POP alone. As indications for vaginal mesh-augmented POP surgery become more restricted, and given that advanced POP stage is a risk factor for surgical failure[3], the question of whether vaginal meshes may improve outcomes in women with stage 4 POP is very relevant. The primary aim of our study is to evaluate subjective and objective outcome 12 months following NTR vs vaginal mesh-augmented repair, in women with stage 4 POP. As a secondary outcome, we evaluated postoperative complications, lower urinary tract symptoms (LUTS) and quality of life.

MATERIALS AND METHODS

Following IRB approval, through a retrospective chart analysis, we identified patients who underwent vaginal POP surgery from 2013-2023 at our institution. NTR included anterior and/or posterior colporrhaphy and sacrospinous ligament fixation (SSF). Transvaginal mesh repair was carried out with a variety of commercial kits: Uphold LITE, Boston Scientific (12 patients), Elevate® vaginal mesh, AMS (24 patients), with self-retaining support (SRS) implant, Lyra Medical (9 patients) and Calistar S, Promedon (3 patients). Vaginal hysterectomy and midurethral sling procedures were performed when clinically indicated. Pre-operative evaluation included medical history, a structured pelvic floor symptom questionnaire, POP-Q staging, cough-stress test, validated QoL questionnaires (Pelvic Floor Distress inventory-PFDI-20; Pelvic Organ Prolapse and Incontinence Sexual Questionnaire- PISQ-12). Patients who returned for the 12-month follow up were included in the analysis. Follow up visits included a structured pelvic floor symptom questionnaire, cough stress test, vaginal inspection for assessment of mesh complications, POP-Q staging, and validated QoL questionnaires (PFDI-20, PISQ-12). Data were analysed using the SPSS statistical program.

RESULTS

The initial surgical cohort included 501 women. Subjects with stage 4 prolapse (n=99, 19.7%) were identified by calculating pre-operative Ba Bp or C points measuring TVL (total vaginal length) minus 2 cm and greater. Patients with follow-up shorter than 10 months were excluded. Sixty-eight women were included in final analysis, 21 in the NRT group and 47 in the vaginal mesh group. No difference was found in demographic data and background morbidity: mean age of NTR and vaginal mesh was 64.29±9.81 vs 66.64±5.92, respectively (p= 0.31), BMI was 21.75±11.40 vs 21.49±12.49, respectively (p=0.93).

We observed a higher preoperative constipation rate in the NTR group [6 (28.6%) vs 3 (6.4%), p<0.01]. One patient in the NTR group and 2 patients in the vaginal mesh group had recurrent POP surgery. Subjective and objective cure at 12 months was equivalent for NTR and vaginal mesh [Table 1]. Postoperative LUTS were similar between groups, but for a higher incidence of increased daytime frequency in the NTR group (P=0.01) [Table 1]. QoL parameters at 12 months were similar between groups [Table 1]. We encounter postoperative complications only in the vaginal mesh group: 1 Clavien-Dindo classification (CDC) 4a (ICU admission due to pulmonary edema), 2 cases of mesh erosion (CDC 3a and 2), 1 blood transfusion (CDC 2) and one urinary tract infection (CDC 2).

INTERPRETATION OF RESULTS

Despite a limited cohort and a retrospective design, our data indicate that NTR may be as good as vaginal mesh repair for very advanced POP (stage 4) 12-months following surgery. This finding is of clinical importance because advanced POP is a well-recognized risk factor for poor surgical outcome[3], and as such it is a possible indication for vaginal mesh-augmented surgery. As we are facing an era during which the use of vaginal meshes is increasingly abandoned, data indicating equivalent outcomes of advanced POP surgery using either technique may reassure patients that NTR is not only safe but also effective on a medium-term follow-up. Studies on larger cohorts and with longer follow-up are required to confirm our results.

CONCLUSIONS

Women with stage 4 POP are expected to have equal objective and subjective success rates and QoL outcomes following NTR and vaginal mesh-augmented repair. However, vaginal mesh is related to a higher risk of complications.

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Table 1: Subjective and objective outcome at 12-months, the values are presented as mean ± SD or number (%)

Variables		NTR n=21 (30%)	Mesh n=47(70%)	P value
Post-operative pelvic floor symptoms	Prolapse	1 (5.0)	1 (2.4)	1.00
	Frequency	6 (30)	1 (2.4)	0.01
	Nocturia	9 (45.0)	10 (24.4)	0.10
	Urgency	7 (35)	12 (29.3)	0.65
	UUI	4 (20)	4 (9.8)	0.42
	SUI	0 (0.0)	3 (7.3)	0.54
	Voiding	0 (0.0)	1 (2.5)	1.00
	Post mic	0 (0.0)	2 (4.9)	1.00
Post-operative POP-Q measurements	Ba	-1.12±1.76	-1.71±1.69	0.19
	BP	-2.00±1.05	-1.82±1.13	0.54
	C	-8.19±1.18	-7.84±3.28	0.64
	GH	4.00±0.95	4.17±0.74	0.43
	PB	3.33±0.68	3.45±0.71	0.54
	TVL	8.55±0.79	8.95±0.90	0.08
Post-operative POP-Q stage	0	3 (14.3)	6 (12.8)	1.00
	1	3 (14.3)	12 (25.5)	0.36
	2	13 (61.9)	24 (51.1)	0.41
	3	2 (9.5)	5 (10.6)	1.00
	4	0 (0.0)	0 (0.0)	
Post-operative QoL questionnaire scores	POPDI	9.47±14.80	7.18±12.54	0.63
	CRADI	11.65±17.74	4.96±8.29	0.11
	UDI	18.05±17.05	10.63±16.20	0.24
	PFDI	18.80±34.77	14.05±25.83	0.53

50 - SELF - MANAGEMENT OF VAGINAL CUBE PESSARIES CAN IMPROVE SEXUAL FUNCTION AT LONG TERM FOLLOW UP

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INTRODUCTION AND AIM OF THE STUDY

Pessaries are commonly used to treat pelvic floor disorders, but little is known about their influence on the sexual life of pessary users, especially by self-care. Daily self-management of cube pessaries was found to be a safe and effective treatment for improving POP related symptoms and QoL in the long term. We hypothesized that removing the cube pessary prior to sexual activity doesn't influence negatively the sexual life of the patients and the general sexual life of these patients is not worse as it was before the pessary treatment.

MATERIALS AND METHODS

This is a secondary analysis of a prospective cohort study in which 214 symptomatic POP patients (stage 2+) were enrolled prospectively (January–December, 2015). Each patient was size-fitted with a space-filling cube pessary (Dr. Arabin®) and completed a questionnaire online or by phone ≥5 years after her initial fitting with questions regarding pessary management surrounding sexual activity. Change in quality of life (QoL) was measured with the Patient Global Impression of Improvement (PGI-I).

RESULTS AND INTERPRETATION OF RESULTS

Of 185 women included in our analyses, 174 (94%) were continuing to use their pessary 4 weeks post insertion. Among those, 143 (82.2%) used the pessary successfully for ≥5 years. All premenopausal (41/41, 100%), and half of the postmenopausal patients (51/102, 50%) were reported to be sexually active by the time of the fulfilling of the questionnaire. The majority of premenopausal women described their sexual life as much better (7/41, 17%), or better (20/41, 48.8%) than before the use of vaginal cube pessary while little over one third of them reported no change (14/41, 34.1%). The improvement of sexual quality of life was even more higher among postmenopausal women (41/51, 80,8%), among which 22.6% described it much better (11/51), and 58.2% as better (30/51). Only 19.6% (10/51) reported no change. Not a single patient reported a deterioration in their sexual life due to the use of the pessary. The overwhelming majority, over 90 % of sexually active patients reported that the removal of the vaginal cube pessary before sexual activity is not "not disturbing at all" (67.4 %, 62/92) or "barely disturbing" (25 %, 23/92) during the 5-year study period.
The sexual active patients had an even better QoL measured by PGI-I as sexually non-active patients. 91,3%, (84/92)] described their condition as much or very much improved compared to their pretreatment status while 84,3% (43/51) of the sexual non-active patients reported the same improvement.

CONCLUSIONS

Long-term follow-up questionnaire assessment indicates that daily self-management of a cube pessary is accompanied with an improved sexual life in symptomatic pelvic organ prolapse patients. The overwhelming majority reported that the removal of the vaginal cube pessary before sexual activity is not disturbing.

51 - PROSPECTIVE OBSERVATIONAL STUDY ON THE IMPLEMENTATION OF THE ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL IN THE PERIOPERATIVE MANAGEMENT OF PATIENTS UNDERGOING VAGINAL SURGERY

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INTRODUCTION AND AIM OF THE STUDY

The recommendations of the ERAS Society are successfully applied in several surgical disciplines to ensure faster post-operative recovery. In 2020, guidelines on vaginal and vulvar surgery were published (1), whose applicability and benefits in clinical practice are still under study.
This study aims to evaluate the benefits related to the application of the recommendations of the ERAS Society compared to the use of a non-standardized ward protocol in patients undergoing vaginal surgery for uterovaginal prolapse in terms of length of stay, complications, health costs, functional recovery, and perceived satisfaction.

MATERIALS AND METHODS

An observational study was conducted comparing postoperative outcomes between a prospective cohort of 17 patients undergoing vaginal surgery (vaginal hysterectomy and/or anterior vaginal repair) between August 2022 and April 2023 who underwent perioperative management according to the ERAS protocol (GROUP A) and a retrospective cohort of 22 patients who underwent the same procedures between August 2021 and July 2022 being managed according to a "non-ERAS" approach (GROUP B).

RESULTS

In GROUP A, an earlier restoring of bowel function was observed (on average 25.2 hours after surgery vs. 44.4, $p<0.001$), together with a reduction in hospitalization stay (on average 42.7 and 64.6 hours, $p<0.001$, respectively) and a reduction in hospitalization costs for both vaginal hysterectomy (on average 623 and 900 euros respectively, $p<0.001$), and anterior vaginal repair (on average respectively 303 and 688 euros, $p<0.001$). There was no statistically significant difference in terms of fever, urinary tract infections, post-voiding bladder volume following catheter removal, need for intermittent catheterization or repositioning of a urinary catheter, number of emergency room visits, hospital readmission and re-interventions and post-operative pain assessed by VAS scale. In the experimental group, QoR-15 questionnaires were also administered during hospitalization and SSQ8 one month after surgery for the evaluation of post-operative recovery and perceived satisfaction: the average QoR-15 value on the first day was 126.35/150, on the second day 130.2/150; the mean SSQ8 value was 38.47/40 **(Table 1)**.

INTERPRETATION OF RESULTS AND CONCLUSIONS

From these preliminary data, the effectiveness of the ERAS multimodal approach is also confirmed in vaginal surgery in terms of reducing hospitalization times and costs without showing an increase in post-operative complications; there is also a possible benefit in terms of pain control and patient satisfaction, which will hopefully be demonstrated in the future by studies with greater sample numbers.

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	NON ERAS	ERAS	p
Post-operative pain (VAS) day 1	0.73	0.35	n.s
Post-operative pain (VAS) day 2	0.55	0.18	n.s
HOSPITAL READMISSION	2 (9.1%)	1 (5.9%)	n.s.

REOPERATION	2 (9.1%)	0 (0%)	n.s.
LENGTH OF STAY (HOURS)	64.68	42.71	<0.001
URINARY TRACT INFECTIONS	4 (18.2%)	2 (11.8%)	n.s.
RETURN TO BOWEL FUNCTION (HOURS)	44.41	25.18	<0.001
POST VOID RESIDUAL VOLUME 1st (ml)	70.68	51.76	n.s.
POST VOID RESIDUAL VOLUME 2nd (ml)	55.68	43.53	n.s.
HOURS TO NEGATIVE PVR	53.45	31.71	<0.001
HOURS TO SPONTANEOUS MICTURITION	48.86	22.47	<0.001
FEVER	1 (4.5%)	0 (0%)	n.s.
MEAN HOSPITALIZATION COST: VAGINAL HISTERECTOMY + ANTERIOR VAGINAL REPAIR	900€	623€	<0.001
MEAN HOSPITALIZATION COST: ANTERIOR VAGINAL REPAIR	688€	303€	<0.001

Table 1. Post-operative outcomes in patients managed by ERAS vs non-ERAS protocol after vaginal surgery for Pelvic Organ Prolapse

52 - SAFETY AND EFFICACY OF VAGINAL IMPLANTS IN PELVIC ORGAN PROLAPSE SURGERY. A META-ANALYSIS OF 161 536 PATIENTS

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INTRODUCTION AND AIM OF THE STUDY

Among the many surgical treatments for pelvic organ prolapse (POP), better results can be achieved with the use of vaginal implants; however, due to the perceived complications, the performance of these surgeries has been restricted or banned in many countries [1, 2]. Therefore, our aim was to assess the real value of vaginal implants in POP surgery and compare the safety and efficacy of operations with and without implants**.**

MATERIALS AND METHODS

A systematic search was performed in three medical databases. Randomized controlled trials (RCTs) or observational studies of vaginal POP surgeries comparing the use of implants with native tissue in term of safety and efficacy were included. Safety outcomes were defined by different types of complications and reoperation due to complication, while efficacy outcomes were defined by parameters of anatomical success and the rate of reoperations due to recurrence. We used a multivariate meta-analysis framework to estimate the pooled odds ratios (OR) of the various outcomes in POP vaginal surgeries with implants vs. native tissue. This approach allowed us to simultaneously control for study correlations and estimate multiple correlated outcomes. For functional- and non-functional complications and anatomical success, only RCTs were included in the analyses.

RESULTS

Fifty comparative studies were included. The rate of reoperations due to complication (OR:2.15, CI:1.20-3.87), vaginal erosion (OR:14.05, CI:9.07-21.77), vaginal bleeding (OR:1.67, CI:1.25-2.23), and de novo stress urinary incontinence (OR:1.44, CI:1.18-1.75) were significantly higher in the implant group. Regarding anatomical success (OR:3.22, CI:2.06-5.0) and rate of reoperations due to recurrence (OR:0.55, CI:0.36-0.85), implant surgeries were superior.

CONCLUSIONS

POP surgeries with vaginal implants are more effective procedures, and with acceptable complication rates, compared to surgeries without implants. Therefore, the complete prohibition of implants for POP surgeries should be reconsidered.

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53 - LEARNING CURVE EVALUATION FOR TWO DIFFERENT VAGINAL HYSTERECTOMY PROCEDURES: THE CLASSICAL TECHNIQUE VERSUS THE USE OF LIGASURE™

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INTRODUCTION AND AIM OF THE STUDY

A residency training in Obstetric and Gynecology should include the achievement of surgical skills, including the ability to perform a hysterectomy, before becoming a specialist. Vaginal hysterectomy is considered the preferred surgical approach for its mini-invasiveness, costs and return to normal activities. However, in many parts of the world the training on this surgical procedure is more and more limited because of a better access to teaching facilities for laparoscopic or robotic approaches. The primary objective of this study was to compare the learning curve for two vaginal hysterectomy techniques (with the exclusive indication of pelvic organ prolapse): the classical technique (with the use of reabsorbable sutures) versus the use of a vessel sealing and cutting device (the LigaSure™, that includes a bipolar radiofrequency generator). The learning curves were evaluated on the basis of operative times. The two different procedures were also compared in terms of overall and total intraoperative blood loss, intraoperative and short-term postoperative complications, postoperative pain, hospital stay.

MATERIALS AND METHODS

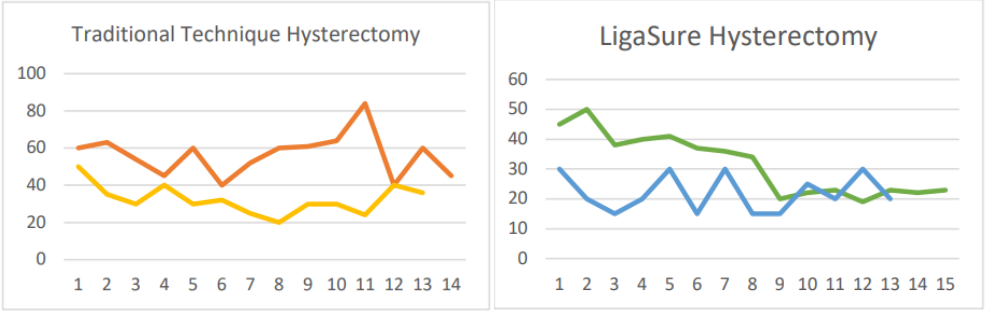
This is a prospective, multicenter preliminary feasibility study, for a further randomized clinical trial in an academic tertiary referral urogynecological unit. We included women suffering of symptomatic genital prolapse and candidates for vaginal hysterectomy. Women were divided into 4 different groups: group A and group B included women submitted to vaginal hysterectomy performed by a trainee surgeon using LigaSure™ and the classic technique respectively. In Group C and D vaginal hysterectomy was performed by an expert surgeon using the LigaSure™ or the classic technique respectively. Pelvic prolapse was scored accordingly to the ICS POP-Q classification. For each single patient the following data were collected: age, body mass index, parity, uterine weight, duration of surgery, blood loss, postoperative pain (evaluated with a 10-point visual analogue scale), intra-operative and post-operative complications and length of hospital stay. The learning curve for the two different procedures were defined when the operating time of the trainees matched the one of expert surgeons. Statistical analysis was performed with Prism ver. 8 (GraphPad software) for Mac OS. We constructed curves using the CUSUM method by dividing the consecutive cases in each group into three subgroups and comparing the total times to hysterectomy between each of them. Statistical significance was considered achieved for a p value <0.05.

RESULTS

A total of 55 patients were enrolled: 15 in group A, 14 in group B, 13 in group C, 13 in group D. The results of collected data concerning operation time, intra-operative blood loss, days of hospital stay and post-operative pain are listed below.

	Group A	Group B	Group C	Group D
Hysterectomy time (min)	31.5 ± 10.3	56.29 ± 11.6	21.9 ± 6.3	32.46 ± 7.9

A statistically significant difference was found between operation times in the four groups in favour of the use of LigaSure™ ($p < 0,0001$ comparing A and B, p value = 0.001 comparing C and D).
Figure 1 shows the comparison of consecutive procedures (LigaSure and classic technique) performed by a resident (green-orange curve) and an experienced surgeon (blue-yellow curve).
Figure 1.



We analyzed the learning progression for both techniques by dividing the total cases for each surgeon into three groups following the time sequence (first 5 patients, second 5 patients, last 5 patients). Comparison of the average times of the

first group of patients with the last group of patients showed a statistically significant decrease in hysterectomy times with LigaSure™, which approached the average times of an experienced surgeon after about 9 procedures. The curve analysis for conventional hysterectomy showed some reduction in operating times between the first 5 patients and the last 4, but without a statistically significant difference. In this case, the average times of an experienced surgeon were reached after about 13-14 procedures.

	Group A	Group B	Group C	Group D
Estimated blood loss (ml)	50 (30-100)	50 (50-200)	30 (20-150)	30 (30-200)

No statistically significant difference was found concerning blood loss between the four groups (p value = 0.14 comparing A and B, p value = 0.60 comparing C and D).

	Group A	Group B	Group C	Group D
Hospital stay (days)	2 (1-2)	1 (1-1)	2 (2-3)	2 (2-3)

Collected data showed a statistical difference in length of stay in hospital between A and B ($p < 0.0001$) and no statistical difference between C and D ($p = 0.06$).

Post-operative pain was only assessed using a VAS scale for patients submitted to vaginal hysterectomy performed by an experienced surgeon.

	C	D
VAS post-op	2.5 ± 0.9	4.1 ± 0.8

Pain was significantly lower in the group where hysterectomy was performed with LigaSure™ than in the group operated with the conventional technique, with a statistically significant difference ($p<0.0001$).

INTERPRETATION OF RESULTS

Our study demonstrated that the learning curve for vaginal hysterectomy with the use of Ligasure is shorter than using the classical technique. According to the CUSUM analysis of the surgical success rate, vaginal hysterectomy with traditional technique requires a greater number of operations to achieve a stable surgical condition. Also, the operating time resulted statistically shorter in the groups operated with LigaSure™. Blood losses were similar in the two groups, with no statistically significant difference. Post operative pain was lower in patients operated by expert surgeons with LigaSure™ technique.

CONCLUSIONS

This is the first study analyzing learning curves for vaginal hysterectomy by comparing the traditional technique using sutures with the one using LigaSure™. The latter showed advantages in teaching trainees and in post operative pain. Furthermore, for more experienced surgeons, the use of LigaSure™ showed a reduction in intraoperative bleeding and post-operative pain, leading to faster patient recovery and discharge.

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54 - PERIOPERATIVE MORBIDITY IN VAGINAL NATIVE TISSUE REPAIR FOR PELVIC ORGAN PROLAPSE PRIMARY SURGERY: COMPARISON BETWEEN EXPERIENCED AND ON-TRAINING SURGEONS.

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INTRODUCTION AND AIM OF THE STUDY

Vaginal native tissue repair (VNT) represents the optimal choice in case of primary surgery for pelvic organ prolapse. Vaginal surgery has been renewed in interest after NHS mesh alert in 2018 concerning the risk of use of prosthetic materials. Cornerstone of VNT is the site-specific repair with apex restoring. The apex management during vaginal hysterectomy (VH) is offered in all women and usually a McCall procedure is performed. Vaginal surgery offers some advantages such as shorter hospitalization, less complications and shorter recovery-time compared to abdominal and procedures; this technique is effective and anatomical, and allows optimal functional outcomes. Irrespective to this advantages, vaginal surgery is less taught in trainees' surgical trainings compared to other procedures, maybe because of the difficulty to control the surgeons' movements and a longer training curve. The aim of this study is to compare peri-operative and 30-days morbidity in VNT surgery performed by experienced surgeons or on-training surgeons.

MATERIALS AND METHODS

This study included a comprehensive analysis of all patients who underwent VNT for pelvic organ prolapse (POPq stage 3rd or 4th) at our center between January 2021 and December 2022. Patients were divided into two groups: patients operated by experienced surgeons (ES) compared to patients operated by on-training surgeons (OT). In the OT group the 2 most experienced surgeons has tutored 2 on-training colleagues. The aim of this study was to compare intra-operative data (surgical procedure, blood loss, operative time) and 30-days postoperative morbidity (complications stratified by Clavien-Dindo system, voiding function, hospitalization) between the two groups. The statistical analysis involved the comparison of categorical variables, such as different surgical techniques, using either the $\chi 2$ test or Fisher's exact test. A significance level of $P<0.05$ for two-tailed tests indicated statistically significant differences.

RESULTS

A total of 140 women were included in this study, 21 in OS group and 119 in ES group. Patients were comparable in terms of age and BMI all the data are shown in table 1. All peri-operative complications were Clavien-Dindo II, no major complication occurred.

Table 1	**On-Training** **OS** (21 patients)	**Expert** **ES** (119 patients)	P value (< 0.05)
Mean age	62	63,4	0,285
Mean BMI	26,311	26,01	0,305
Operative time	124,62 min	111,58 min	0,110
Blood loss	133,33 ml	140,51 ml	0,393
Clavien-Dindo complications (grade II)	1	6	0,957
Surgical Technique			
Vaginal hysterectomy	21 (100%)	119 (100%)	/
Anterior repair - single layer - double layer	16 (76%) 10 (62,5%) 6 (37,5%)	90 (76%) 60 (67%) 30 (33%)	0,95 0,27 0,27
Posterior repair	0	6 (5%)	/
Apical suspension - McCall culdoplasty - Modified McCall	21 (100%) 15 (71%) 6 (29%)	119 (100%) 76 (64%) 43 (36%)	 0,502 0,502

Adnexa - Salpingectomy - Oophorectomy (/ TOGLI SLASH post menopausal patients)	 19 (90%) 17/19 (89%)	 98 (82%) 85/109 (78%)	 0,35 0,25
Post-operative recovery			
Catheter removal	1,33	1,21	0,69
Hospital stay	3,52	3,5	0,95

INTERPRETATION OF RESULTS

In our population no statistically significant difference was showed in terms of operative time, blood loss or surgical technique. In expert group 6 posterior repair was performed, but considering the small number this was not relevant. No difference was also showed in terms of recovery and discharge at home.

CONCLUSIONS

Vaginal native tissue repair and vaginal hysterectomy, when appropriately taught and with experienced assistants, could lead to same intra and peri-operative results, without increasing risks for patients. More consistent data and single-operator data analysis are mandatory to clarify the effective skillness of each surgeon. Long term postoperative results will also be necessary to confirm the long term results.

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55 - CAN MODIFIED MCCALL COLPOSUSPENSION TECHNIQUE IMPROVE ANATOMICAL AND FUNCTIONAL OUTCOMES OF NATIVE TISSUE REPAIR?

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INTRODUCTION AND AIM OF THE STUDY

Vaginal hysterectomy with Native Tissue Repair (VNTR) is in most cases the preferred surgical approach for Pelvic Organ Prolapse (POP), as recommended by the International Continence Society/International Urogynecological Association (ICS/IUGA) [1]. The arising interest in mesh-free procedures is related to lower costs and lack of graft-related complications. However, the higher risk of recurrence represents the main disadvantage of VNTR [2]. Currently, surgical techniques aim to achieve long-term results, mainly focusing on the restoration of apical vaginal support.
The purpose of the present study was to compare traditional McCall culdoplasty with a modified McCall procedure performed with a more apical uterosacral ligaments (USL) suspension, evaluating anatomical and functional outcomes.

MATERIALS AND METHODS

A prospective clinical observational study was conducted at our secondary referral Uro-Gynaecological center between April 2021 and April 2022. The study has been approved by the local ethics committee.
All patients with a multi-compartment symptomatic prolapse POP-Q stage ≥ 2, who underwent vaginal primary surgery, were assessed for eligibility. Patients who had completed a 12 month-follow-up were enrolled. Pre and postoperative assessment included a complete urogenital physical examination, according to the POP-Q score system, and a clinical evaluation with standardized questionnaire regarding symptoms of prolapse, urinary and anal incontinence. The International Continence Society Questionnaire-Short Form (ICSQ-SF) was used to detect urinary symptoms. The Patient Global Impression of Improvement (PGI-I) was administered to evaluate subjective satisfaction at follow-up.
The surgical procedure for POP primary repair was vaginal hysterectomy and restoration of apical vaginal support with a modified McCall culdoplasty, with bilateral adnexectomy in postmenopausal women. Additional surgical procedures, such as anterior repair by Lahodny (1st step), posterior repair and perineal body reconstruction, were performed.
Our modified McCall procedure included the following steps:1) dissection of USL up to the ischial spine and its shortening (Figure 1); 2) USL transfixion with Polydioxanone (PDS) size 0 suture at the level of the ischial spine; 3) attachment of USL suspension sutures to the duplicated anterior and posterior fascia apex, 4) restoration of the apical support performed by fixation of USL to the vaginal apex with PDS size 0, one sutures per side. The same surgical steps were repeated contralaterally (Figure 2). All surgical procedures were performed by the same surgical team. Traditional McCall culdoplasty was the standard technique performed in our Unit for the restoration of apical vaginal support until April 2021, when the modified McCall technique was introduced. To achieve the purpose of our study Modified McCall culdoplasty (Group A) outcomes were compared with a homogeneous control group VNTR who underwent traditional McCall culdoplasty (Group B) between March 2020 and March 2021.
The primary outcome was prolapse recurrence, defined as POP-Q system stage ≥ II. Categorical and continuous data were represented by frequencies and means (standard deviation) or medians (interquartile ranges), respectively. Comparison between the two groups was assessed by Fisher's, Mann-Whitney U and Student's t tests. Differences were considered statistically significant at p-value <0.05.

RESULTS

The study involved a cohort of 85 (Group A) and 86 (Group B) women. A complete follow-up was available for 79 patients (Group A) and 75 patients (Group B), with a dropout rate of 7 % and 12.7 %, respectively. Demographic, clinical baseline characteristics and pre-surgical POP-Q stage were homogeneous in the two groups (Table 1). Postoperative anatomical and functional outcomes are reported in Table 2. Anatomical prolapse recurrence occurred in 2 patients in Group A (2.5%) and in 5 patients in Group B (6.7%).
In Group A, all cases involved anterior compartment at POP-Q stage 2 (point Ba to the level of the hymen).
In Group B, anatomical recurrence included in 3 cases (60%) anterior compartment POP-Q stage 2 (point Ba to the level of the hymen), in 1 case (20%) vault prolapse POP-Q stage 2 (point C≥ to the level of the hymen) and in another case (20%) posterior compartment POP-Q stage 2 (point Bp to the level of the hymen).
No one required further surgery. The PGI-I questionnaire showed that 76 (96%) patients in Group A versus 64 (85%) in Group B were satisfied or very satisfied of surgical treatment (PGI-I ≤2), with a statistically significant difference. Despite the improvement in urinary symptoms after VNTR, there was not a significant difference in the ICS-SF score after surgery between the two groups (score index: 8 versus 8.82).

INTERPRETATION OF RESULTS

In our series the POP-Q cure rate was 97.5% in modified McCall culdoplasty group versus 93.3% in traditional technique. Although the small sample size did not assure an adequate power to detect statistical significance, data showed a lower anatomical recurrence rate with the modified McCall technique compared to the traditional McCall culdoplasty.

Moreover, an improvement in clinical outcomes was evidenced by PGI-I score, with a statistically significant difference. In our opinion, the good anatomical and functional results were related to the improved apical support achieved by the more apical uterosacral ligaments (USL) suspension and the application of the key points of VNTR surgery: 1.attachment restoration to the apical compartment of pubo-cervical and rectum-vaginal fascia, 2.accurate identification and treatment of each fascial defect.

CONCLUSIONS

In accordance with the literature [3], our study confirmed that VNTR can be an efficient and safe treatment for POP and shows successful anatomical and functional outcomes in patients who underwent the modified McCall culdoplasty procedure. Despite the limitation due to the small sample size, these results provide relevant clinical findings and preliminary data for further larger studies.

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Table 1. Preoperative characteristics

	Group A (79)	Group B (75)	*p* value
Age, mean (± SD)	62.8 ± 8.1	63.3 ± 11.4	0.43
Body mass index (kg/m2)	24.9 ± 3.7	25.5 ± 4.2	0.51
Parity,mean (± SD)	2.4 ±1.2	2.5 ± 1.3	0.38
Menopause, n (%)	67(84.8%)	65 (86.7%)	0.81
Delivery:spontaneous vaginal	63 (79.7%)	57 (76 %)	0.69
- Instrumental	5 (6.3%)	6 (8%)	0.76
- cesarean section	4 (5%)	5 (6.6%)	0.74
Sexual activity, n (%)	15 (19 %)	11 (14.7%)	0.53
Hypertension, n (%)	25 (31.6 %)	26 (34.6%)	0.73
Diabetes, n (%)	7 (8.9 %)	8 (10.6%)	0.79
Pre-surgery POP-Q stage			
Stage 2	6 (7.6%)	6 (8 %)	1
Stage 3	59 (74.7 %)	54 (72%)	0.71
Stage 4	14 (17.7%)	15 (20%)	0.83

	Group A (79)	Group B (75)	*p* value
Total recurrence (POP Q system), n (%)	2 (2.5%)	5 (6.7%)	0.27
Stage II (POP Q system), n (%)	2 (2.5%)	5 (6.7%)	0.27
Stage III (POP Q system), n (%)	0 (0%)	0 (0%)	1
Stage IV (POP Q system), n (%)	0 (0%)	0 (0%)	1
Anterior recurrence, n (%)	2 (2.5%)	3 (4 %)	0.67
Vault recurrence, n (%)	0 (%)	1 (1.3%)	0.48
Posterior recurrence, n (%)	0 (%)	1 (1.3%)	0.48
Persistent urge incontinence, n (%)	4 (5.1%)	6 (8%)	0.52
De novo urge incontinence, n (%)	3 (3.8%)	5 (6.7%)	0.49
Persistent urinary stress incontinence,n(%)	5 (6.3%)	7 (9.3%)	0.56
De novo urinary stress incontinence,n(%)	3 (3.8%)	4 (5.3%)	0.71
PGI-I score ≤ 2, n (%)	76 (96%)	64 (85%)	0.024

Table 2. Postoperative assessment

Figure 1. Dissection and shortening of USL.

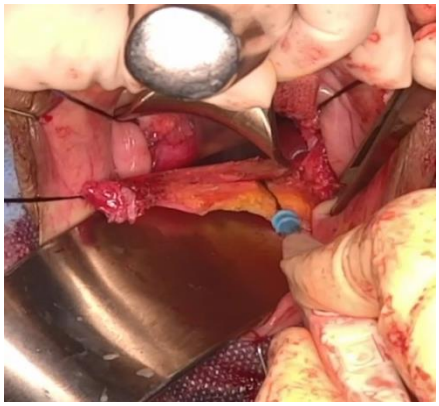
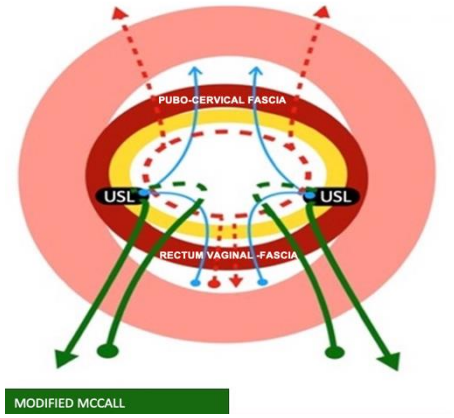


Figure 2. Modified McCall culdoplasty.



56 - VAGINAL SURGICAL APPROACH FOR THE TREATMENT OF ADVANCED PELVIC ORGAN PROLAPSE IN PATIENTS WITH INCREASED RISK FOR RECURRENCE

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INTRODUCTION AND AIM OF THE STUDY

The use of vaginal mesh for the treatment of pelvic organ prolapse (POP) repair, was demonstrated in the recent FDA randomized trial to have better anatomical outcomes in the 3-year post-op follow-up[1]. Mesh deformation following transplantation, is the main reason for latter mesh erosion and POP recurrence. The self-retaining support (SRS) implant for the treatment of anterior and apical prolapse, was previously described as an efficient and safe mesh, with the advantage of the solid frame which allows the mesh to remain flat. In the absence of fixation, it retains its position without tension[2]. We aim to describe our experience with the SRS device in a large cohort of women with advanced POP and a high risk for recurrence.

MATERIALS AND METHODS

A retrospective cohort analysis was performed, including all women underwent SRS implantation, between 6/2014 to 4/2023, in a single pelvic floor unit. Selection criteria was ≥2-degree vaginal anterior wall prolapse with or without apical prolapse, in patients with an increased risk of prolapse recurrence (chronic heavy lifting, extreme sport, high parity, high BMI, extensive obstetric trauma, etc.). All patients signed a detailed inform consent prior to surgery including detailed description of the risks involved in vaginal mesh surgery and the status of mesh implants in western world countries. Patients were followed by a telephone survey using PFDI-20 validated quality of life questionnaire, question #3. Those whose answer score was >1, were re-examined for POP-q evaluation. The surgical technique was described in the past[2].

RESULTS

A total of 285 women underwent the SRS procedure during study period, of them 47 (16%) had a history of hysterectomy. No intra-operative complications were documented. Average pre- vs post-operative POP-q measurements were Ba= 3.25cm vs -2.86cm, C= 0.63cm vs -6.35cm and Bp= -1.39cm vs -2.08cm. 7 patients (2.4%) had post-operative hematoma, which was managed conservatively without the need for blood transfusion. 12 (4.2%) underwent reoperation due to prolapse recurrence of the anterior and/or vaginal apex. 26 (9%) women who answer to the PFDI20 question #3 was >1 in the telephone questionnaire were examined. Of them, 2 (0.7%) had anterior recurrence, 5 (1.7%) had an apical recurrence, and 19 (6.6%) had posterior wall prolapse. A total of 5 patients out of the 12 patients who were reoperated (1.7%) had frame erosion. This was managed by a frame-only removal, in an ambulatory procedure.

INTERPRETATION OF RESULTS

The use of the SRS demonstrated 95.1% anatomical success rate at a median follow-up of 14 months postoperatively, without intra-operative complications, and mild post-op complications at follow-up. These results are in line with previous published results of the SRS use in pelvic surgery. 73% of the women who scored >1 in the PFDA20, question #3 were found to have posterior compartment changes probably secondary to re-distribution of intra-abdominal pressures after supporting the anterior pelvic compartment using synthetic implant[2].

CONCLUSIONS

This large cohort study confirms that the use of the SRS device is a safe and good alternative for the repair of anterior wall with or without apical vaginal prolapse specifically in women with advanced pelvic organ prolapse and risk factors for relapse. Posterior compartment anatomical changes are the main shortcomings of the technique, although not reflected by the average post operative Bp measurements.

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57 - DIGITAL TWIN OF THE FEMALE PELVIC FLOOR

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INTRODUCTION AND AIM OF THE STUDY

The female pelvic floor is a complex biomechanical system. Nearly all urogynecological disorders are accompanied by changes in soft/connective tissue elasticity and muscle function, as well as by the appearance or growth of abnormal structures/nodules. The female pelvic floor is a dynamic system that changes throughout a woman's lifetime. This raises a fundamental question – how can we apprehend this complex dynamic biomechanical system? Generally, integrating all available data and simulating the behavior of a physical entity under various conditions is what constitutes a virtual representation, known as a digital twin. The aim of this study is to develop a prototype of a digital twin of the female pelvic floor. This prototype would integrate objective and subjective data for a specific patient and visualize them in a 3D anatomical and functional image of the pelvis.

MATERIALS AND METHODS

Blender 3.6 LTS, an open-source 3D creation suite by the Blender Foundation in the Netherlands, was used to render the female pelvic floor with all its bony and internal organs/structures. This imaging software supports the entirety of the 3D pipeline - including modelling, rigging, animation, simulation, rendering, compositing, and motion tracking. The created 3D image of the female pelvic floor was transferred into the OpenGL interface under C++ Builder environment (Embarcadero, United States) to allow for image manipulation and modification based on patient examination data. The OpenGL module, along with the 3D digital model of the female pelvic floor, has been integrated into the software interface of a clinically validated device, the Vaginal Tactile Imager (VTI). The VTI provides 52 biomechanical parameters, a Biomechanical Integrity Score (BI-score), and its five components: tissue elasticity, pelvic support, muscle contraction strength, muscle relaxation, and mobility. An IRB-approved clinical studies allowed for the enrollment of women aged 21+ years without prior pelvic surgery and with either normal pelvic conditions or prolapse stage II+ (POP). Informed consent was received from all the enrolled subjects, who were examined with the VTI. Biomechanical parameters were statistically compared for both normal and prolapse data samples. The Statistical Toolbox of MATLAB R2022b was used in the data analysis.

RESULTS

A total of 208 subjects from multi-site studies were included in the data analysis. Among them, 102 subjects had normal pelvic floor conditions (no POP) while 104 had POP stage II+. The ranges, mean values, and standard deviations for all 52 VTI parameters were established. Out of these, 35 parameters were identified as statistically sensitive ($p<0.05$; *t*-test) to POP development. Among these 35 parameters, 11 showed decreased tissue elasticity, 9 indicated deteriorations in pelvic support, and 15 demonstrated muscle function weakness in POP versus normal conditions. The development of the digital twin of the female pelvic floor involved integrating available objective and subjective data for a specific patient. Objective data included imaging findings and biomechanical parameters acquired by the VTI. Subjective data comprised patient-reported symptoms, personal medical history and demographic measurements. Tactile imaging and biomechanical mapping data were incorporated into the digital twin of the female pelvic floor. Tactile imaging captured the response of soft biological tissues to applied pressure or touch, providing detailed topographical mapping of tissue elasticity, crucial for understanding the biomechanical properties of the pelvic floor. Biomechanical mapping allowed for the identification of areas of abnormal rigidity or laxity contributing to prolapse conditions. The VTI data for normal pelvic conditions facilitated the creation of a reference for healthy pelvic conditions, corresponding to the biomechanical integrity of the female pelvic floor. Anatomical modelling and biomechanical mapping provided functional insights, highlighting how the pelvic floor muscles and connective tissues work together during various activities such as the Valsalva maneuver, pelvic muscle squeezing, or involuntary contraction during coughing.

INTERPRETATION OF RESULTS

From a clinical perspective, the proposed digital twin technology may improve women's healthcare. The added precision can enhance diagnostic accuracy and personalize treatment planning, while dynamic, functional insights can bolster patient education and long-term monitoring. For instance, using anatomical and biomechanical simulations, clinicians could demonstrate to a patient how specific physical activities or behaviors might strain their pelvic floor, thereby guiding lifestyle modifications. Similarly, these technologies can support the design of personalized treatment or physiotherapy programs, adjusting exercises to the patient's specific biomechanical profile. By tracking changes in tactile imaging and biomechanical maps over time, clinicians can monitor how the pelvic floor is responding to treatment or changing with age, pregnancy, or other life events. This could prompt timely modifications to the treatment plan and prevent the development or progression of pelvic floor disorders. A digital twin can be continuously updated with new data over time,

providing a dynamic, long-term view of the patient's condition. In the future, the digital twin could be combined with an artificial intelligence module for sophisticated data interpretation and prediction of possible treatment outcomes. Additionally, placing a personal digital twin in the cloud could facilitate interactive communication between the patient and the clinician.

CONCLUSIONS

A prototype of a difital twin of the female pelvic floor was developed and validated with the set of data for normal and prolapse conditions. By integrating objective and subjective data into the digital twin may enhances diagnostic accuracy, facilitates personalized treatment planning, promotes patient engagement, and supports long-term patient monitoring, significantly improving the care and outcomes for women with pelvic floor disorders.

58 - IN VITRO VIABILITY OF HUMAN UMBILICAL CORD MESENCHYMAL STEM CELLS CULTURED ON 3D PRINTED POLYCAPROLACTONE/GELATINE METHACRYLATE HYBRID SCAFFOLDS AND THE IN VIVO TISSUE RESPONSE IN RATS; A PILOT STUDY

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INTRODUCTION AND AIM OF THE STUDY

Tissue engineering is a new discipline that can be used to develop biological scaffolds to repair the structure and improve the function of damaged pelvic floor tissues; however, the ideal scaffold and stem cell is still under investigation. Human umbilical cord mesenchymal stem cells (HUC-MSCs) are highly proliferating multipotent cells with immune regulatory activity, anti-inflammatory effect, and are known to support angiogenic differentiation potential and remodelling of the extracellular matrix, which are mainly manifested by paracrine and juxtacrine pathways (1). Polycaprolactone (PCL) and gelatine methacrylate (GelMA) have been studied as non-toxic possible niches promoting cell growth in some areas of tissue engineering, however, their combination, together with HUC-MSCs, have not been investigated (1-3). This preliminary study aimed to investigate PCL/GelMA hybrid scaffold prototypes synthesized with different application methods & concentrations of GelMA, for the culture of HUC-MSCs. After in vitro assessment of optimal scaffold in terms of stem cell adhesion, we intended to specify its' in vivo tissue response in Wistar Albino rats' implanted tissues in terms of angiogenesis, connective tissue formation and inflammation.

MATERIALS AND METHODS

The printing of the PCL scaffold was done with the Axolotl 3D Bio-printer integrated into the MEW (melt electro-writing) apparatus. For the desired fibre thickness and density of the PCL bead, the nozzle diameter was determined as 0.25 mm, and the filling rate was determined as 50%. After printing 20X20X1mm scaffolds, fiber-coating, and embedment with gelatine methacrylate (GelMA) were made to improve the biocompatibility. HUC-MSCs were extracted from a fresh umbilical cord at a length of 10 cm obtained at a caesarean delivery with informed consent. After appropriate preparations and isolation of the cells in the cell culture laboratory, 200000 HUC-MSCs were seeded in vitro on each scaffold prepared separately in 4 groups; PCL/fiber-coated with GelMA and PCL/embedded in Gel-MA, each at 10% and 5% Gel-MA concentrations. The proliferation of HUC-MSCs at 7 days after seeding was measured by Cell Counting Kit-8 (CCK-8) with absorbance readings taken at 450 nm, as instructed by the manufacturer. The growth of the cells was analysed by plotting the cell growth curve according to the absorbance readings. The viability of the cells was assessed and compared between the 4 groups of scaffolds and the transmission control protocol (TCP) using the LIVE/DEAD® Viability/Cytotoxicity Kit; representative confocal Z-stack (300 μm) images of encapsulated HUC-MSCs stained with calcein AM (live) and ethidium homodimer (dead) viability staining kit at days 2 and 5 were obtained. Live cells were stained green while dead cells were stained red.

After in vitro identification of the scaffold with optimal adhesion and viability of HUC-MSCs (PCL fibre-coated with 5% GelMA), 3 female Wistar Albino rats aged 12 months were prepared for the in vivo pilot study. The biomaterials were placed under the skin adjacent to the left scapulas of two rats, with a small incision in the local muscle. (Experimental tissue blocks 1 and 3). The tissues adjacent to the right scapulas of the same rats with no implants were taken as controls (Tissue blocks 2 and 4). The incisions were sutured with polyglactin. The third rat was kept as a control with no skin incision (Tissue block 5). The 3 rats were sacrificed after 5 weeks of follow-up. The implants were excised as blocks with 1 cm margin from the adjacent tissue, including the underlying adherent muscle. The subcutaneous tissue and muscle opposite to the implanted area with no scaffold were also excised. Each tissue block taken was fixed in 10% buffered formalin to prepare the paraffin block. After routine histological follow-up procedures, tissue sections taken from the paraffin blocks were stained with Haematoxylin Eosin and Mallory Azan and evaluated in terms of inflammation, angiogenesis and fibrosis, under a light microscope. Ethical approval was obtained, and the main study is ongoing.

RESULTS

In the in vitro viability study, it was observed that the scaffolds embedded with GelMA and scaffolds with GelMA at a concentration of 10% did not allow cellular viability; only the scaffold which was coated with 5% GelMA showed almost the same degree of cell proliferation as the positive control (TCP). The viability rates were found to increase from 40% to 70% on the 2nd and 5th days (Figure1). Based on this data, PCL scaffolds fibre-coated with 5% GelMA were used for the in vivo study. The results were in full agreement with the protocol of Live/Dead Assay.

In the experimental group of the in vivo study (tissue blocks 1 and 3), the scaffold appeared to be fused with the surrounding connective and striated muscle tissues. Inflammatory cells around the scaffold, and single-layer squamous epithelial-like cells lining the periphery of the scaffold spaces were observed (Figures 2a and b).

In control tissue blocks 2 and 4, the striated muscles and connective tissue had a normal appearance, and it was observed that the density of the blue-stained collagen fibres was low (Figures 2c and f). Compared to the control group, it was observed that the amount of connective tissue and vascularity increased in the scaffold due to the increase in the number of capillaries (thin arrows, figure 2d) and the presence of collagen fibres stained with aniline blue (Mallory Azan) (Figure 2e). In the third rat with no incision (Group 5), the striated muscles and connective tissue also appeared similar.

Fig.1. Confocal microscope images and Cell Proliferation Assay results.

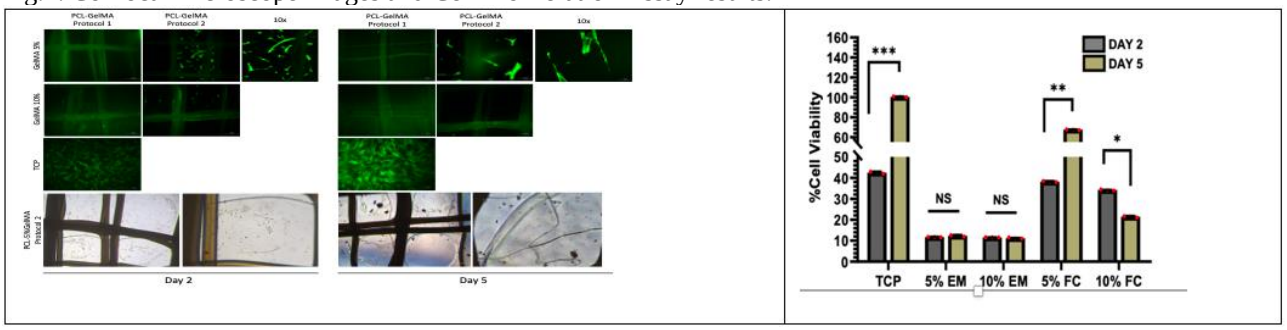
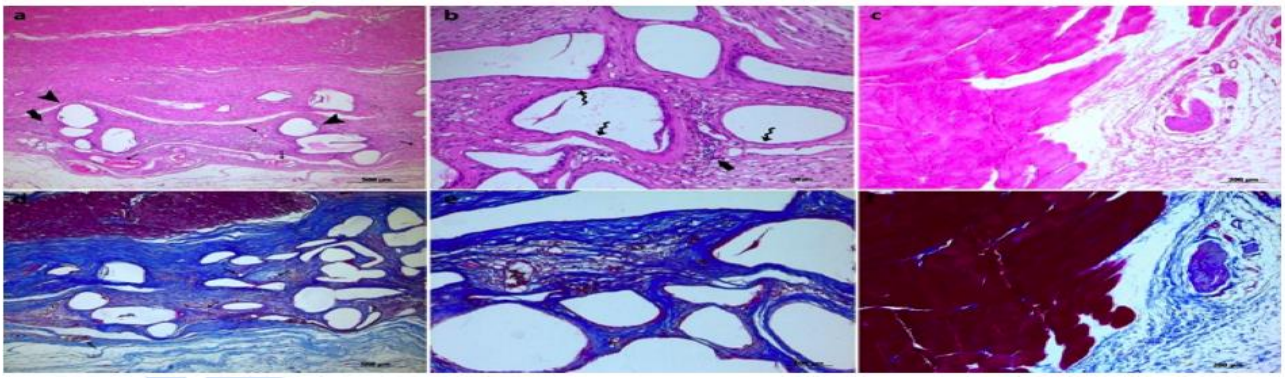


Fig.2. Skin and subcutaneous sections in the 1st and 2nd experimental and control groups. a, b, d and e: photographs of group 1 of the scaffolded group stained with Haematoxylin Eosin and Mallory Azan. c and f: group photographs applied to a group 2 scaffold control, stained with Haematoxylin Eosin and Mallory Azan. Arrowhead; scaffold blanks, thick arrow; inflammatory cells, thin arrow; vessels, convoluted arrow: single-layer squamous epithelial-like cells lining the periphery of the scaffold spaces.



INTERPRETATION OF RESULTS

PCL scaffolds fibre-coated with GelMA at a concentration of 5% yielded good results comparable to TCP in terms of HUC-MSCs attachment and viability. In this in vivo pilot study in rats, the investigated hybrid scaffold prototype cultured with HUC-MSCs was found to induce angiogenesis, integration with striated muscle tissue, epithelialization in scaffold spaces and an increase in connective tissue within 5-weeks.

CONCLUSIONS

The experimental prototype hybrid scaffold of PCL/fibre-coated with lower concentrations of GelMA, seems to provide good HUC-MSCs adhesion and viability rates and satisfactory tissue response in rats.

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59 - IMPACT OF MANNITOL BLADDER DISTENSION IN THE INTRAOPERATIVE DETECTION OF URETERAL KINKING DURING PROLAPSE SURGERY

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INTRODUCTION AND AIM OF THE STUDY

Ureteral injuries are likely to be the most feared complication of gynecologic surgery. Intraoperative recognition is of the utmost importance, in order to avoid diagnostic delay, which results in prolonged hospitalization, additional surgical or endoscopic procedures, and potential serious sequelae. Intraoperative cystoscopy represents the diagnostic of choice to investigate ureteral patency. This is usually assessed through direct visualization of dyed ureteral jets.
In recent years, indigo carmine became unavailable making ureteral jets result less visible and affecting the diagnostic performance of cystoscopy. Recently, the use of mannitol solution as an infusion medium has been proposed to allow for better visualization of the flow of urine during cystoscopy [1-3]. The rationale is to take advantage of the difference in viscosity between mannitol and the urine spilling from the ureteral orifice (Figure 1). However, up-to-date there is no data about mannitol impact in detecting ureteral injuries.
Consequently, with this study we aimed to compare diagnostic performance of saline versus mannitol intraoperative cystoscopy after high risk surgical procedures in terms of false negative (postoperative ureteral sequelae) in a large cohort of patients.

MATERIALS AND METHODS

The data of patients who underwent vaginal hysterectomy followed by high uterosacral ligaments suspension for POP between January 2013 and December 2022, were retrospectively analyzed. Specifically, we divided the population into two groups based on the use of either saline intraoperative cystoscopy (Group 1 - January 2013 to December 2017) or mannitol medium intraoperative cystoscopy (Group 2 - January 2018 to December 2022).
During the postoperative course, daily serum creatinine check was performed until discharge, and in case of back-lumbar pain, urinary tract imaging was performed. During the 1-month follow-up visit, once again the presence of back-lumbar pain was investigated, and eventually, a kidney imaging was performed. Any ureteral complication which required conservative or surgical management was noted and considered as a false negative of intraoperative cystoscopy.

RESULTS

The retrospective chart review identified 925 patients who underwent vaginal hysterectomy followed by high USL suspension for POP between January 2013 and December 2022. Based on the period and the use of either basal or mannitol solution augmented cystoscopy, 545 patients were assigned to Group 1 (basal cystoscopy - January 2013 to December 2017, while 380 were included in Group 2 (mannitol solution - January 2018 to December 2022). There were no differences between groups in terms of patients' age, parity, BMI, and prolapse severity.
Postoperative ureteral injuries were identified in 12 (1.3%) patients in the whole period. Specifically, postoperative ureteral injuries occurred in 11 (2.0%) patients in Group 1, and in one (0.3%) woman in Group 2. This corresponded to a significant reduction of postoperative ureteral injuries after the introduction of mannitol solution bladder distension ($p=0.019$).

INTERPRETATION OF RESULTS

Our study demonstrated in a cohort of 925 patients that the use of mannitol instead of saline as bladder distension medium was able to significantly reduce the occurrence of postoperative ureteral sequelae ($p=0.019$). The only false negative cystoscopy occurring in the mannitol group was likely related to partial ureteral obstruction that cystoscopy was unable to detect despite ureteral jets visualization.
To the best of our knowledge this is the first study comparing postoperative outcomes in terms of ureteral sequelae of mannitol versus saline bladder distension intraoperative cystoscopy in high-risk gynecological procedures.

CONCLUSIONS

The use of mannitol instead of saline as bladder distension medium was able to significantly reduce the occurrence of unrecognized ureteral kinking.

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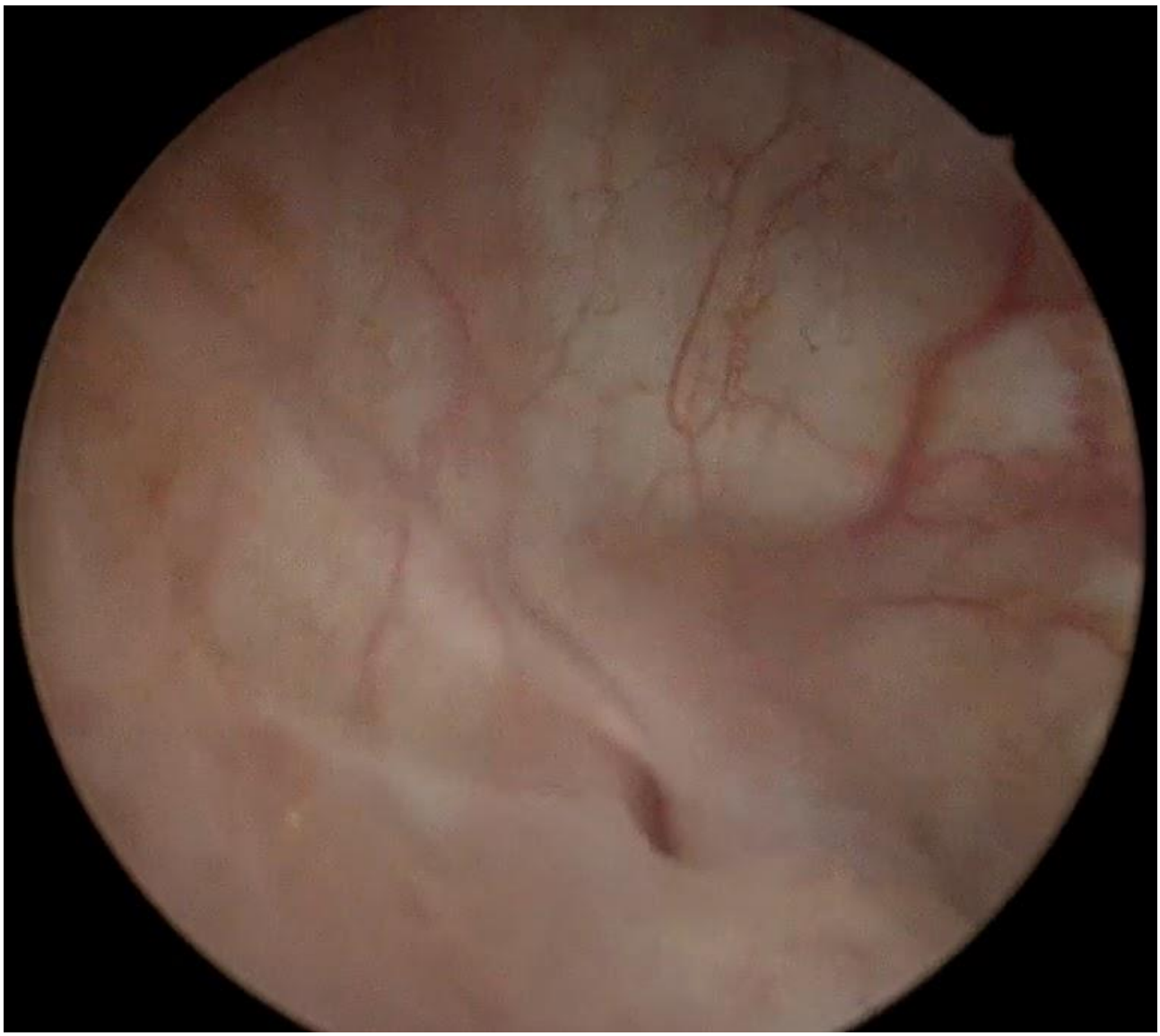
Figure 1
Mannitol solution bladder distension: evidence of enhanced ureteral jet is provided.



60 - PRELIMINARY RESULTS OF A CLINICAL TRIAL USING A NOVEL DEVICE FOR THE AUTOMATION OF MEASUREMENT OF VOIDED VOLUMES IN THE BLADDER DIARIES OF WOMEN WITH LOWER URINARY TRACT SYMPTOMS (E-BLADR STUDY)

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INTRODUCTION AND AIM OF THE STUDY

The care of women with lower urinary symptoms (LUTS) remains challenging. Bladder diaries represent a first line, gold standard tool in assessing patients with LUTS. They provide an objective verification of patients symptoms as well as key values for the plausibility control of subsequent urodynamic studies. However, their accuracy has been challenged, as current estimates suggest errors of 10% [1] against an agreed international standard of physiological measurement of 5% [2]. Recent literature aims to elucidate the feasibility of bladder diaries as a surrogate test to urodynamics. It is important therefore, to ensure precision of voided volume measurements before adopting such surrogacy.The aim of this clinical trial is to compare the accuracy of the existing measurement method of voided volumes versus an electronic automated method of measurement via a novel device.

MATERIALS AND METHODS

This is a prospective, single centre, clinical trial of female adults presenting with LUTS in a tertiary teaching hospital over a 5-month period between September 2022 and January 2023. The trial has gained regulatory and ethics approval and has been registered prospectively in a public trial database. Eligible participants were asked to complete a consecutive 3-day bladder diary by voiding in the diary pod, whilst at the same time providing their estimates for the volumes voided. The participants were blinded to the automated diary pod measurements. The accuracy of the electronic, cloud based, automatically generated, bladder diaries was then compared to the bladder diaries generated by the conventional eyeballing-estimate method of measuring voided volumes. Statistical analysis was performed using IBM SPSS Software v.29. Bland- Altman plot was conducted to compare the two measurement techniques. Descriptive statistics, linear regression analysis and independent samples T-test were performed.

RESULTS

A total of N=151 participants have been registered for the trial. Of those, 53 represent the control group of healthy volunteers (HCPs) and 98 represent female adults suffering from LUTS. At the time of writing sixty-four (N=64) sets of diaries were available for analysis. Eight (N= 8) were excluded as being incomplete. Results from twenty-five (N=25) healthy individuals and thirty (N=30) women with LUTS were analysed. Mean age was 38.6 and 56.27 years respectively. Proportional bias between the two methods of measurement was detected in the night volumes of patients with LUTS with a coefficient of 0.55 and mean volume difference of 51.96mls which was statistically significant($p<0.05$). No proportional bias was detected between the two methods of mesurement in the daytime and 24-hour volumes of healthy individuals [mean diff -25.68mls (p 0.724)] and patients with LUTS [Mean diff -35.13mls (p 0.539)]. Only 60% of healthy volunteers and 40% of patients with LUTS conformed to the ICS standards and provided estimates of voided volumes with an error of equal or less than 5% of the actual total voided volume per 24 hours.

INTERPRETATION OF RESULTS

Proportionally, Healthcare professionals appear to be more accurate in their estimates of voided volumes in comparison to LUTS patients. Cofounding factors such as age difference between the two groups, with the HCP group being much younger, as well as the fact that volume estimation is frequently required by HCPs in a healthcare setting, might provide an explanation for this trend. There was a statistically significant difference in the night-time estimates of patients with LUTS when compared to the actual volumes voided. This might be of significance in the diagnosis of nocturia.

CONCLUSIONS

Healthcare professionals demonstrate higher precision in estimating voided volumes compared to individuals with lower urinary tract symptoms. The statistically significant disparity observed in the nocturnal volume estimates reported by LUTS patients could potentially be of profound significance in the diagnosis of certain conditions such as nocturia. Further clinical trials, encompassing a larger sample size are imperative to derive more robust conclusions regarding the potential utility of automated voided volume measurement. Furthermore, the evaluation of patient preference and compliance assumes paramount importance in assessing the cost-effectiveness of implementing novel devices for this purpose.

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61 - POSTURAL URINARY INCONTINENCE IN WOMEN; WHAT DID AMBULATORY URODYNAMIC MONITORING REVEALED?

Serife Esra Çetinkaya [(1)] - **Bulut Varli** [(1)] - **Mehmet Murat Seval** [(1)] - **Fulya Dökmeci** [(1)]

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INTRODUCTION AND AIM OF THE STUDY

Postural incontinence (PI) is defined as the complaint of involuntary loss of urine associated with a change of body position (1). However, the exact mechanism for PI has not been adequately investigated it has been noted that it is still uncertain whether it should be linked to stress (SUI) or urgency urinary incontinence (UUI) (1). The silence of the current literature about PI has also been mentioned in the 6th International Consultation on Incontinence **(**ICI) report (2). Only one study evaluated urinary leakage with postural changes and reported that it seems to correspond to intrinsic sphincter deficiency (ISD) according to conventional urodynamic findings of lower cough leak point pressure (CLPP), Valsalva leak point pressure (VLPP), and maximal urethral closure pressure (MUCP) (3). The aim of this study was to evaluate the clinical characteristics and single-voiding cycle ambulatory urodynamic monitoring (AUM) findings of women with PI.

MATERIALS AND METHODS

In this retrospective cohort study, data of women with urinary incontinence (UI) who were admitted to the urogynecology unit of a university hospital between January 2018 and December 2022 were reviewed (n=895). Women were grouped as those with PI (n=186) and with no PI (n=709) according to their answers on direct questioning ("Do you leak urine with a change in your body position, for example while rising from a seated or lying position?"). Baseline characteristics (Age, body-mass index, menopausal status, parity), clinical examination findings (Q-tip test, cough stress test (CST), POP-Q staging, and supine empty stress test (SEST)), scores of validated questionnaires (Sandvik incontinence severity index, PFDI-20, IIQ-7, OAB-V8, PISQ-12) were compared. Single-voiding cycle AUM findings were available in 565 women, of whom 139 women had PI. Comparisons were performed using the Mann Whitney-U test, Student's t-test and Chi-Square test, where appropriate. $p<0.05$ was considered statistically significant.

RESULTS

We found that out of every five women with UI described postural leakage in this cohort. Baseline characteristics were similar between the groups. Women with PI had significantly higher scores in the Sandvik severity index, UDI-6, CRADI-8, IIQ-7, and OAB-V8 and lower scores in the PISQ-12 (Table 1). On physical examination, Q-tip test, CST, and SEST, positivity were more prevalent in women with PI ($p<0.001$). Urodynamic incontinence types; SUI, UUI and MUI and the presence of detrusor overactivity (DO) were statistically similar among the groups ($p>0.05$). (Table 2).

INTERPRETATION OF RESULTS

In this study, women with PI were found to have more severe urinary incontinence, more distressing pelvic floor symptoms, and worse sexual function. In the study of Nyangoh Tamoh K. et al., it has been reported that UI with "postural" changes seemed to be related to older age and ISD according to conventional urodynamics, without reporting data regarding DO or clinical findings (3). On the contrary, in this study, age was not found to be related to PI, and even though investigated with ambulatory monitoring, either the presence of DO and the urodynamic diagnoses of urinary leakages, were similar in both groups. However, CST, SEST, and Q-tip test, positivity revealed significantly higher prevalence with PI.

CONCLUSIONS

Postural incontinence is not rare in women with urinary incontinence and seems to be related to more severe symptom bother independent of the type of incontinence, with substantial impact on quality of life. Further studies are needed to evaluate the exact pathophysiologic mechanism.

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Table 1: Baseline characteristics and clinical findings of women with and without PI (n=895)

	Negative PI (n=709)	Positive PI (n=186)	*p*
Baseline characteristics			
Age (years), mean±SD	54.8±12	54.9±10.2	0.882
Menopausal, n (%)	441 (62)	121 (65)	0.156
Parity, mean±SD	2.8±1.6	2.7±1.4	0.314
BMI (kg/m2), mean±SD	29.7±9.9	30.8±10.5	0.121
Scores of questionnaires			
Sandvik incontinence severity index	6.4±3.9	8.3±3.7	**<0.001**
PFDI-20, mean±SD	136.2±69.5	163.8±77	**<0.001**
POPDI-6, mean±SD	32.5±22.5	37.8±22.5	0.114
CRADI-8, mean±SD	24.4±18.4	30.6±21.9	**0.014**
UDI-6, mean±SD	50±24.2	64.6±23.3	**<0.001**
- Irritative subscale, mean±SD	20±10.4	24.2±10	**<0.001**
- Stress subscale, mean±SD	18.3±8.3	24.4±8.8	**<0.001**
- Obstructive subscale, mean±SD	11.7±10	15±10.4	**0.011**
IIQ-7, mean±SD	8.2±6.4	11.4±6.1	**<0.001**
OAB-V8, mean±SD	19.2±10.3	23.7±9.9	**<0.001**
PISQ-12, mean±SD	28.9±6.9	26.3±8	**0.010**
Clinical examination findings			
≥ Stage 3 POP			
- Anterior, n (%)	183 (26)	24 (13)	**<0.001**
- Apical, n (%)	100 (14)	18 (9)	0.101
- Posterior, n (%)	71 (10)	7 (4)	**0.005**
Positive Q-tip test, n (%)	475 (67)	143 (77)	**0.011**
Positive cough stress test, n (%)	307 (43)	133 (71)	**<0.001**
Positive supine empty stress test, n (%)	121 (17)	88 (47)	**<0.001**

BMI: Body-mass index, CRADI: Colorectal Anal Distress Inventory, IIQ: Incontinence Impact questionnaire, OAB-V8: Overactive Bladder Awareness tool, PFDI: Pelvic Floor Distress Inventory, PISQ: Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire, POP: Pelvic organ prolapse, POPDI: Pelvic Organ Prolapse Distress Inventory, UDI: Urogenital Distress Inventory.

Table 2. Ambulatory urodynamic monitoring findings of women with and without PI (n=565)

	Negative PI (n=426)	Positive PI (n=139)	*p*
Cystometry			
Duration, minutes	91.5±31.1	89.5±34.1	0.516
Maximum cystometric capacity (ml), mean±SD	407.6±203.2	429±206.3	0.283
Urodynamic urinary incontinence			
SUI, n (%)	81(19)	37(27)	0.063
UUI, n (%)	75 (18)	19(14)	0.269
MUI, n (%)	150 (35)	61 (44)	0.076
Presence of detrusor over-activity, n (%)	251 (59)	87 (63)	0.468
Pressure-flow study			
Voided volume (ml), mean±SD	349.2±201.2	377±205.3	0.159
Post-void residual urine (ml), mean±SD	56.9±42.3	52.6±29.8	0.258
Qmax (ml/s), mean±SD	28.9±26.7	28.1±14.1	0.751
Pdet Qmax (cmH2O), mean±SD	43.4±31.1	32.8±21.2	**0.003**
Flow time, mean±SD	36.9±34.4	36.9±35	0.997

MUI: Mixed Urinary Incontinence, SUI: Stress Urinary Incontinence, UUI: Urgency Urinary Incontinence.

62 - PREVALENCE OF LOWER URINARY TRACT SYMPTOMS UP TO 10 YEARS AFTER POSTPARTUM URINARY RETENTION - A CROSS SECTIONAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Postpartum urinary retention (PPUR) usually resolves within 72 hours. In rare cases it extends beyond three days or can persist for several weeks. The aim of this study was to determine the long-term outcome of women who endured PPUR following vaginal delivery.

MATERIALS AND METHODS

We used the Urogenital-Distress-Inventory-6 (UDI-6) questionnaire to assess lower urinary tract symptoms. Extensive data was retrieved for women diagnosed with PPUR (n=362) who delivered between January 2013 and December 2019. Patients were asked to complete UDI-6 and 68.9% (n=242) responded.

RESULTS

Most participants had no urinary complaints (Group 1, 145/242; 60%). Of the other 97 cases (Group 2, 97/242; 40%), 96 reported mild urinary symptoms. Only one woman attained a score that surpassed 33.3, indicative of high urinary distress. As such, significant long-term micturition symptoms resulted negligible. Risk factors known to be associated with PPUR were equally distributed among the two groups. The main difference between groups was the predominance of Caucasians in Group 2 [118 (81.4%) vs 90(92.8%) p=0.012]. Voiding dysfunction (question 5 of UDI-6), was proclaimed by 15 women from Group 2 (15/97=15.5%) and was analyzed separately with a sub analysis (table 2). When the long-term voiding dysfunction group (n=15) was compared to the rest of the cohort (n= 225), a higher rate of hypothyroidism was found in the urinary dysfunction group [4(26.7%) vs 18(7.9%), p=0.036]. Peripartum uterine atony was also more common in the long-term voiding dysfunction group [2(13.3%) vs 4 (1.8%), p=0.047]. Well established other risk factors for PPUR, namely nulliparity and epidural analgesia, resulted less frequent among women with long term voiding dysfunction (p=0.045 and p=0.049 respectively).

INTERPRETATION OF RESULTS

PPUR is a relatively common self-limited condition that bothers women in the immediate days following childbirth and is usually a transient disturbance with minimal long-term consequences.
Caucasian ethnicity was the only factor associated with LUTS in patients with long term follow up after PPUR. When patients with voiding dysfunction were analyed separately, hypothyroidism and peri-partum uterine atony emerged as risk factors allied to voiding dysfunction.

CONCLUSIONS

PPUR is a transient disturbance with minimal long-term consequences. The linkage between hypotiroidim and long term voiding dysfunction shoud be further investigated.

Table 1 - Demographic and peripartum characteristics:

	Group 1 Asymptomatic N = 145	**Group 2 LUTS N = 97**	**P**
Maternal Characteristics			
Age (years)	31.5(±4.6)	31.8(±4.8)	0.646
Caucasian ethnicity	118 (81.4%)	90(92.8%)	0.012
Hypothyroidism	11(7.6%)	11(11.3%)	0.319
BMI (kg/m²)	22.35(±3.9)	21.71(±3.1)	0.365
Weight Gain (during pregnancy)	13.35(±5.2)	13.7(±4.8)	0.83
Pregnancy Characteristics			
Gestational Age (weeks)	40.28(39.0-41.0)	40.1 (38.8-0.7)	0.264
Primiparity	125(86.2%)	81(83.5%)	0.631
Gestational diabetes mellitus	20(13.8%)	8(8.2%)	0.186
Preeclampsia\Hypertension	1(0.7%)	1(1%)	0.774
Intrahepatic Cholestasis (ICP)	5(3.4%)	1(1%)	0.406

Thrombocytopenia	2(1%)	1(1%)	0.651
Fetal malformations	2(1.4%)	2(2.1%)	>0.999
Amniocentesis or CVS	8(5.5%)	7(7.2%)	0.352
Childbirth preparation course	76 (52.4%)	55 (56.7%)	0.512
Intrapartum Characteristics			
preterm delivery	5(3.4%)	4(4.1%)	>0.999
Induction of labor	53 (36.6%)	27 (27.8%)	0.354
Antibiotics during delivery	25(17.2%)	12(12.4%)	0.302
Epidural analgesia	94 (64.8%)	60 (61.9%)	0.638
Clear amniotic fluid	98(67.6%)	72(74.2%)	0.765
Meconium\hematic amniotic fluid	47 (32.4%)	25 (25.8%)	
Duration of the second stage of labor	85(39-147)	75(35-152)	0.915
Transition phase	30 (0-60)	15(0-60)	0.476
Pushing phase	52 (30-86)	60(30-90)	0.529
Prolonged second Stage	31(21.4%)	17(17.5%)	0.461
Non lithotomy position	22 (15.2%)	13(13.4%)	0.701
Episiotomy	44 (30.3%)	37(38.1%)	0.208
Vacuum Extraction	25(17.2%)	16 (16.5%)	0.879
Postpartum characteristics			
Clinical estimation of Bleeding (ml)	300(200-500)	350(225-500)	0.799
Delta hemoglobin (g/dL)	1.58(±1)	1.66(±1.2)	0.867
Perineal Laceration	81(55.9%)	51(52.6%)	0.615
OASI (only 3rd degree)	2(1.4%)	1(1%)	0.957
Manual Lysis of Placenta	3(2.1%)	1(1%)	0.651
Uterine Atony	3(2.1%)	3(3.1%)	0.686
Postpartum Fever	1(0.7%)	4(4.1%)	0.161
Psychological\Psychiatric consultation	4 (2.8%)	5(5.2%)	0.491
Persistent Urinary Retention	5 (3.4%)	6(6.2%)	0.356
LMWH administration after birth	16 (11%)	8 (8.2%)	0.477
Dwell time before removal of catheter	2 (±4.5)	1.88 (±2.2)	0.021
Time From Birth to follow up	6.37(4.62-8.1)	6.44(4.73-7.73)	0.621
Neonatal characteristics			
Neonatal weight	3312(±397)	3330(±415)	0.734
macrosomia >4000 g	7(4.8%)	4(4.1%)	>0.999
SGA <2500 g	1(0.7%)	0(0%)	>0.999
Male Gender	81(55.9%)	51 (52.6%)	0.615
Neonatal Head Circumference	34.5 (±1.4)	34.6 (±1.3)	0.382
Neonatal Hight	50.1 (±2)	50.4 (±2.1)	0.138
Exclusively breastfeeding	104 (71.7%)	61 (62.9%)	0.306

Table 2: Sub analysis based on response to question #5 UDI-6. All parameters presented in table 1 were analyzed and only those found to be statistically significant are presented in this table

	No voiding difficulties N =227	**Voiding difficulties N =15**	**P**
Hypothyroidism	18(7.9%)	4(26.7%)	**0.036**
Epidural	148(65.2%)	6(40%)	**0.049**
Uterine Atony	4(1.8%)	2(13.3%)	**0.047**
Primiparity	199 (87.7%)	10 (66.6%)	**0.045**

63 - THE EFFECTS OF VITAMIN-C AND PLATELET-RICH PLASMA ON PELVIC FLOOR TRAUMA IN RAT MODEL OF VAGINAL DELIVERY: PRELIMINARY RESULT.

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INTRODUCTION AND AIM OF THE STUDY

Vaginal delivery increases the risk of pelvic floor damage, and negatively affects women's quality of life. Recommended preventive antenatal and intrapartum management strategies are still far from complete avoidance of vaginal tissue injury except choosing elective cesarean section in selected high-risk women (1). Thus, regenerative approaches that facilitate the healing of pelvic floor injury might be promising in maintaining normal pelvic floor functions. Vitamin C (L Ascorbic acid) is the crucial factor for the synthesis and post-translational modification of collagen which is the main component of the extracellular matrix and responsible for its strength and integrity. Vitamin C, serves as a co-factor for prolyl hydroxylase enzyme, facilitating the crosslinking of collagen fibrils to form the triple helix structure plays a regulatory role in collagen synthesis (2). Platelet-rich plasma (PRP) is a medical treatment to promote healing and tissue regeneration, which is believed to facilitate the regeneration of vaginal wall tissue and promote collagen production, leading to functional improvement of pelvic floor (3). Although the effects of these applications on various tissues have been investigated, there is no study showing the comparative histological effect of these two agents in vaginal connective tissues after vaginal delivery induced damage. In this study we aimed to evaluate the regenerative histological changes after balloon induced vaginal injury with vitamin-C supplementation and/or PRP application compared to no intervention in rats.

MATERIALS AND METHODS

A total of 30 Wistar-Albino nulligravida rats weighing 200-250 g were divided into 5 groups. Balloon dilatation induced vaginal injury mimicking vaginal delivery was applied to 24 rats. 16 Fr Foley catheter balloon was inserted into the vagina of the rats under anesthesia and inflated with 8 ml of air. After 5 hours, without deflating the balloon, the Foley catheter was withdrawn from the vagina of the rats to simulate forceful vaginal delivery. The remaining 6 rats served as the control group which was also used as PRP donors. The second group (n=6) was followed up without any intervention after vaginal injury. The third group was followed by adding vitamin C to their water with a daily dose of 1.25 mg/ml/day (Vit-C only group). In the fourth group (n=6), PRP (1ml) was injected to paravaginal area at 3 and 9 o'clock sites with 27 Gauge needle after the withdrawal of catheter with inflated balloon and followed without additional treatment (PRP only group). The fifth group (n=6) was given both PRP injection after removal of the balloon and vitamin C supplementation for 30 days with a daily dose of 1.25 mg/ml/day (Vit-C + PRP Group). All rats were followed for 30 days in polycarbonate cages on an ad libitum diet, considering the 12/12-hour light cycle in an environment of 21±1ºC and 45-55% humidity. At the end of the 30-day period, all rats were euthanized, and the vagina and surrounding tissues were placed in 10% neutral formalin and glutaraldehyde solutions for histological examination. Before histological examination all specimens were stained with Hematoxylin-Eosin (HE) and Van-Gieson (VG). Vaginal epithelial thickness and epithelial damage, and mononuclear cell migration collagen and elastin fiber structures with Van-Gieson staining intensity were all histologically evaluated for the tissue damage and healing processes. The study was approved by the Institutional Experimental Animal Ethical Committee.

RESULTS

The normal vaginal epithelium in the control group was characterized as the prominent basal cell layers consisting of six to eight cell layers, the basal layer cells had large round nuclei, while the cells in the intermediate layer were more flattened and their nuclei would be parallel to the basal membrane and epithelial surface (black arrow, figure 1a). It was also observed that there was no degeneration in the lamina propria (black arrow), there was no structural deterioration in the tunica muscularis (blue curly brackets) and tunica adventitia (yellow curly brackets) layers, and the collagen and elastic fiber structuring was regular in control group in Van-Gieson stained preparations (figure 2a). After vaginal injury, histologically proven tissue injury was demonstrated with obvious vaginal atrophy (black arrow), characterized by significant reduction in thickness of epithelial layers and mononuclear cell infiltrations (black star) in the lamina propria, and bleeding areas extending from the lamina propria to the muscularis layer (red star) in rats with no intervention after vaginal injury(figure 1b). Apart from vaginal atrophy related changes, the epithelial cells and the keratin layer were shed, the collagen and elastin fiber structure was disrupted (black arrow), and some enlarged spaces in the lamina propria (blue star) and between the smooth muscle bundles (red star) with accompanying enlarged blood vessels were found (figure 2b). In all treated groups (vitamin-C, PRP or combined vitamin-C + PPR) the histological appearance of specimens stained with HE were; the tunica mucosa (red curly brackets), tunica muscularis (blue curly brackets) and tunica adventitia (yellow curly brackets) seemed to be in congruent when matched with the histological appearance of the control group and both the shedding and atrophy of the cells in the epithelial layer decreased distinctively compared to histologic findings of specimens obtained from the rats with vaginal injury without any intervention (figure 1c-f). Likewise, in the

specimens dyed with VG, it was observed that the collagen and elastin fibers in all treated groups (vitamin-C, PRP or combined vitamin-C + PPR) were regularly arranged as the specimens of the control group (figure 2c-f). However, it was revealed that the most similar appearance to the control group was in the vitamin C alone, intervention group (figure 1c, 2c).

INTERPRETATION OF RESULTS

Histological examination of the injured rat vaginal tissues, determined a distinctive regenerative effect of L-ascorbic acid and PRP on both epithelial layers and connective tissue components of vagina. Our preliminary data revealed positive effects of tissue regeneration in all treatment groups (vitamin-C alone, PRP alone and vitamin-C plus PRP). However, it was interestingly observed that the best recovery signs which were similar to the control group were found in the group that were given vitamin C supplementation alone. Especially in consideration of the bleeding areas in the tunica layers, better results of the use of vitamin-c alone compared to the use of vitamin-C & PRP combination should be interpreted cautiously as possible immunological reactions might have played a role due to not using autologous PRP.

CONCLUSIONS

After balloon dilatation induced vaginal & paravaginal damage in rats, the supplementation of vitamin C seems to have an enhanced regenerative effect on epithelial & connective tissue of vagina compared to no intervention. Further studies are needed to understand the biomolecular and posttranslational changes that occur in the ECM as well.

Figure 1: Hematoxylin-eosin-stained preparations of all groups.

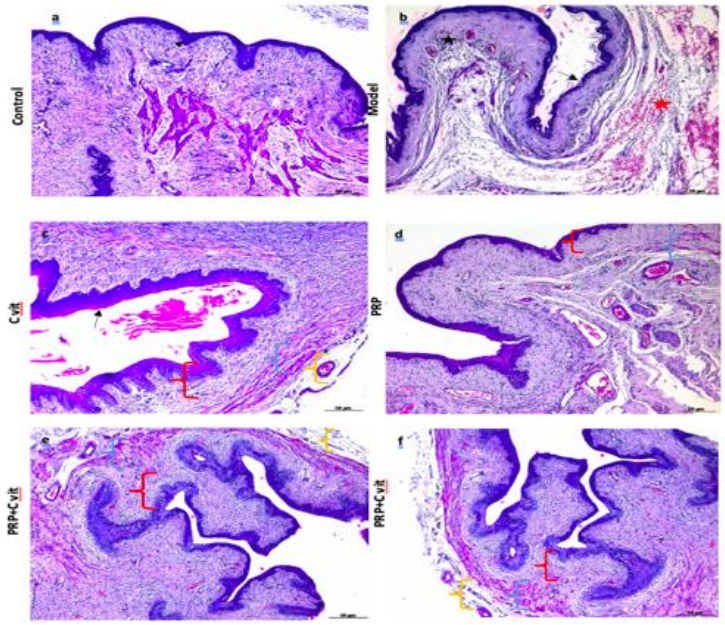
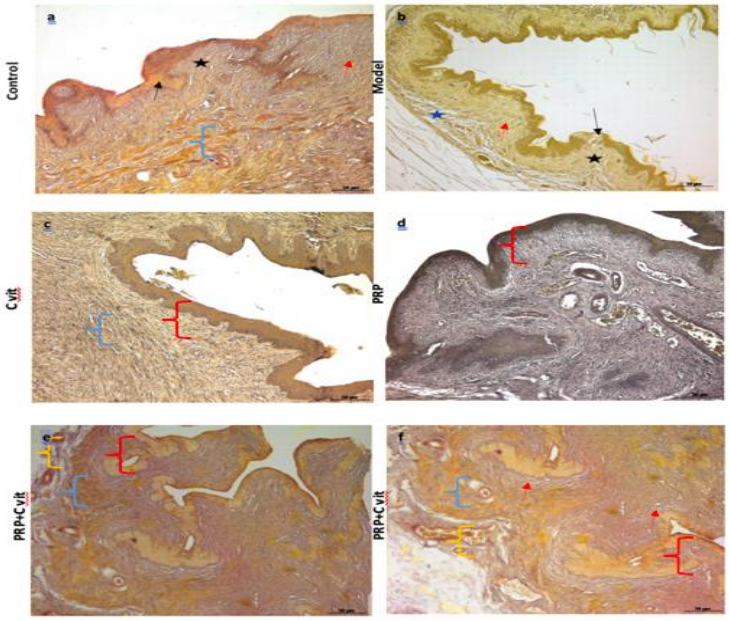


Figure 2: Van Gieson dye-stained preparations of all groups.



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64 - A BIOMECHANICAL ANALYSIS OF CERVICAL AND BONY FIXATION METHODS FOR LAPAROSCOPIC APICAL FIXATION IN A PORCINE MODEL

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INTRODUCTION AND AIM OF THE STUDY

A biomechanical analysis of cervical and bony fixation methods for laparoscopic apical fixation in a porcine model
The incidence of apical uterine prolapse increases with age. After conservative treatment options have been exhausted, surgical correction with the use of alloplastic material often follows. Laparoscopic apical mesh fixation is often performed, and different materials (tacks or sutures) can be used to fix the mesh material either to the vaginal apex (cervix) or sacral bone (promontory) for apical fixation.
The aim of this ex-vivo study was to compare the biomechanical properties for fixation of a synthetic mesh (PVDF, polyvinylidene-fluoride) to the fresh cadaver porcine cervix and sacral spines. Primary endpoints were biomechanical properties maximum load (N), displacement at failure (mm) and stiffness (N/mm). Mode of failure was evaluated as a secondary endpoint.

MATERIALS AND METHODS

The biomechanical ex-vivo testing was performed on porcine, non-embalmed, fresh and unfrozen cadaver uteri and sacral spines (Fig. 1). In a two-column material testing machine (Instron 5565®) a total of 28 trials were conducted in three groups on fresh porcine uteri. Each group evaluated the cervical mesh fixation with a different fixation device: Group 1 (n=10) evaluated three interrupted sutures, group 2 (n=10) three titanium tacks (ProTack), and group 3 (n=8) three absorbable tacks (AbsorbaTack) (Fig. 2). The mesh used for cervical fixation are composed of nonabsorbable, biostable polyvinylidene-fluoride (PVDF) monofilaments.
Additionally, in a total of 30 trials of fresh cadaver sacral spines, the mesh was fixed with two single sutures (group 4), with three titanium tacks arranged in a row (group 5), with three titanium tacks arranged in a triangle (group 6) on the anterior longitudinal ligament.
All trials were conducted until failure of the mesh, tissue or fixation device occurred. Primary endpoints were biomechanical properties maximum load (N), displacement at failure (mm) and stiffness (N/mm). Mode of failure was evaluated as a secondary endpoint.

RESULTS

Significant differences were found between all three groups of the cervical fixation methods in terms of maximum load: Group 1 (three single-button sutures) showed a maximum load of 64 ± 15 N, Group 2 (three titanium tacks) 41 ± 10 N and Group 3 (three absorbable tacks) reached a maximum load of 15 ± 8 N. The most common mode of failure for group 1 and 2 was a net tear or rip under 80-times of maximum load. In group 3, the limiting factor in all tests was a pull-out of the absorbable tacks.
Regarding the sacral spines fixation, the maximum load for group 4 (two single sutures) was 65 ± 12 N, for group 5 (three titanium tacks arranged in a row) it was 25 ± 10 N and for group 6 (three titanium tacks arranged in a triangle) it was 38 ± 12 N. There was a significant difference between all three groups (4-6). The most common failure mode was a “mesh failure” in 9/10 trials for group 4-6.

INTERPRETATION OF RESULTS

Cervical fixation of the PVDF-mesh with three single-button sutures is superior to fixation with three titanium tacks as well as absorbable tacks in terms of maximum load. The suture carries 1.5 times the load of titanium tacks and 4.2 times the load of absorbable tacks. All three fixation options can withstand the physiological load of 10 N, but absorbable tacks are the weakest cervical fixation methods.
The PVDF-mesh fixation with two single sutures at the sacral spine endures 2.6 times more load than titanium tacks arranged in a row and 1.7 times more load than titanium tacks arranged in a triangle.

CONCLUSIONS

Single-button sutures are the significantly stronger and less expensive but could increase operating time (when fixating the mesh) by factor 9 compared to tacks. Possible risks of the tacks are not considered in this ex-vivo analysis.

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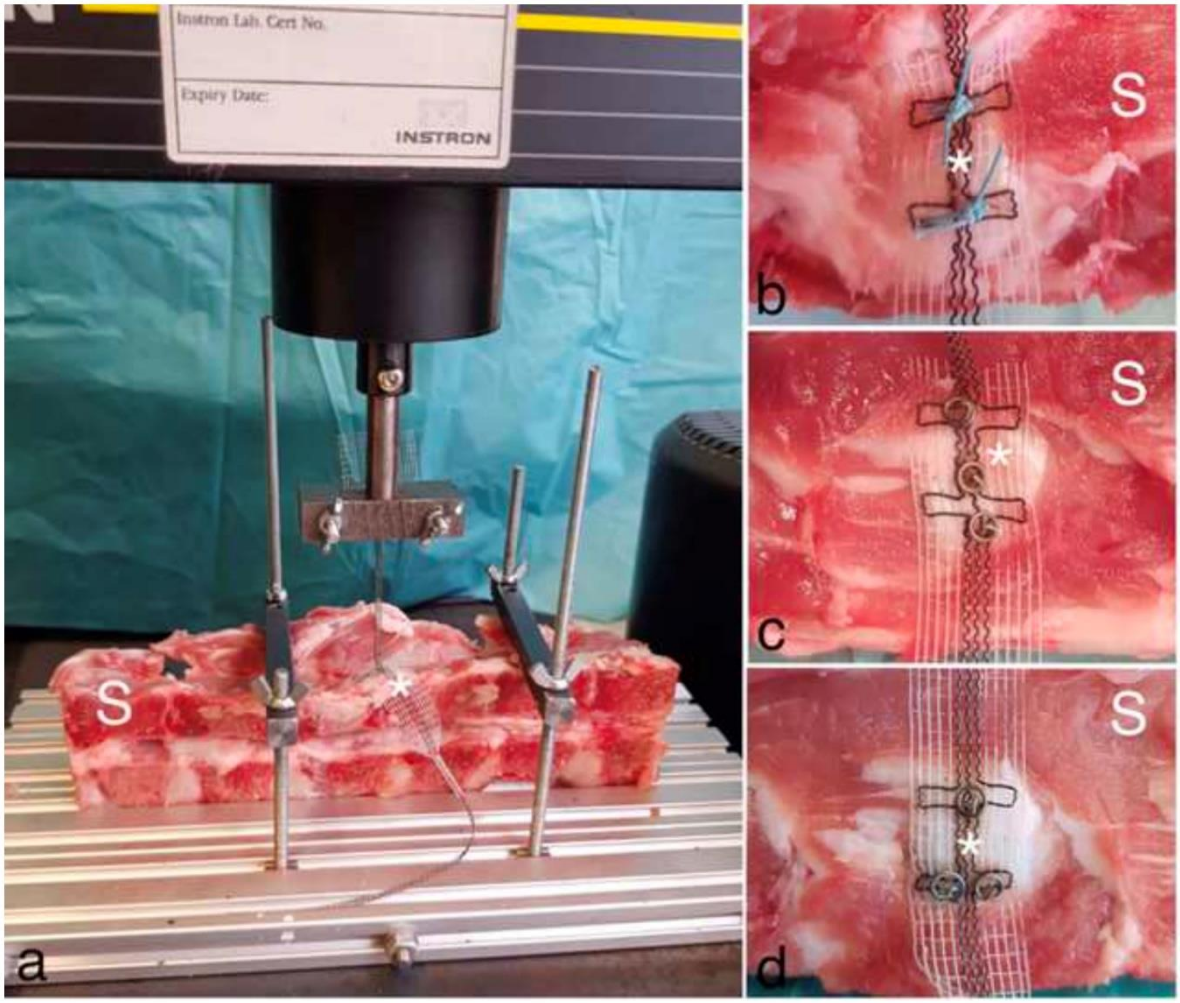
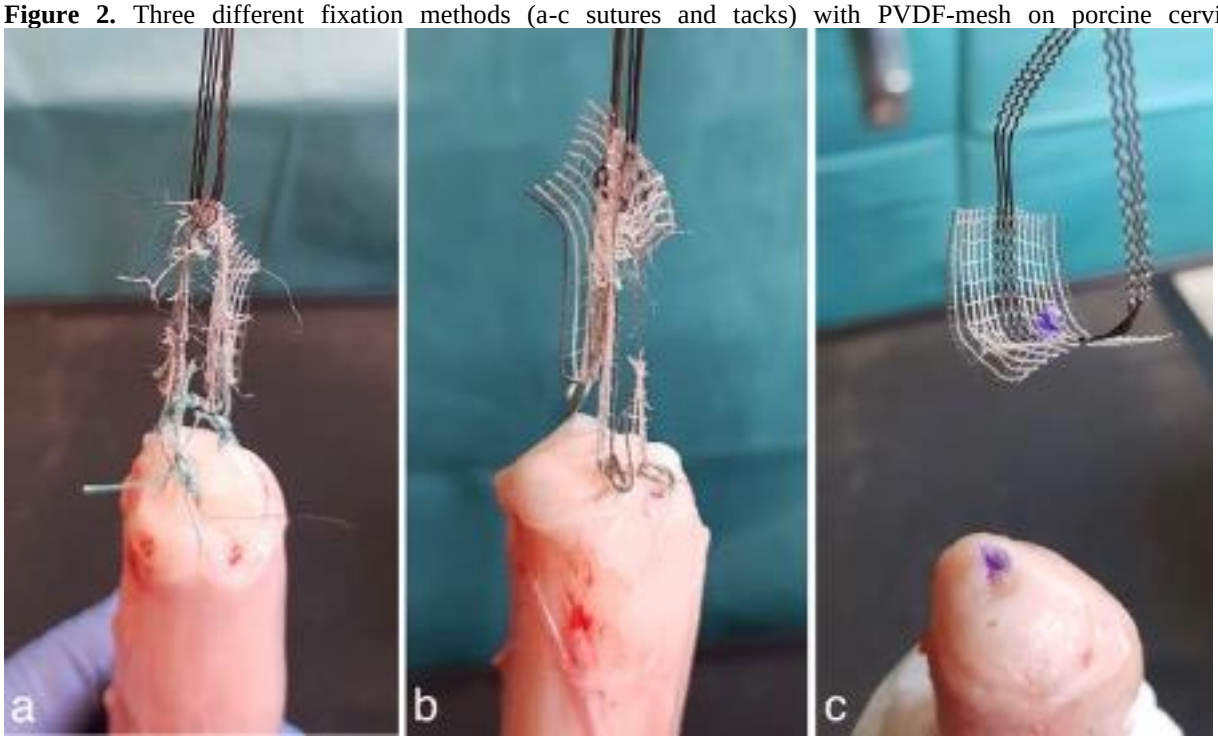


Figure 1. Experimental set-up with ex-vivo testing frame on porcine cadaver sacral spines.

Figure 2. Three different fixation methods (a-c sutures and tacks) with PVDF-mesh on porcine cervix.



65 - REMOVAL OF A SELF-RETAINING SUPPORT DEVICE FOR THE TREATMENT OF PELVIC ORGAN PROLAPSE

Elenora Russo [(1)] - **Giulia Misasi** [(1)] - **Cristina Zito** [(1)] - **Giuditta Novaretti** [(2)] - **Tommaso Simoncini** [(1)]

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INTRODUCTION AND AIM OF THE VIDEO

The use of vaginal mesh for prolapse correction remains a debated topic among urogynecologists. Today we are in a new era of vaginal prosthetic surgery, with new devices and new materials emerging, such as the Lyra SRS Implant. Despite promising initial data of this new device, we still have a limited number of cases and limited follow-up.
At present, no cases of erosion have been documented, therefore no description of how to proceed in case of complications has been given either.
In this video we demonstrate our surgical management of a Lyra SRS Implant erosion at a medium term follow-up after placement.

MATERIALS AND METHODS

A 45 year-old patient came to our center for vaginal spontaneous pain and dyspareunia that occurred after placement of a last generation mesh six months earlier at another center, for a second degree anterior prolapse. At our evaluation, the mesh was correctly placed, and about two cm of vaginal erosion was found on the anterior vaginal wall.
Because of the strong symptomaticity and because of the size of the erosion, we made the decision to proceed with surgery, and the patient underwent complete removal of the mesh one month after the first evaluation. During surgery a more extended erosion was found. In the presented video we illustrate each step of the surgical procedure: lateral dissection of the vagina from the mesh, suburethral dissection with exposure of the rigid frame, isolation of the frame and mesh with cautious disconnection of the mesh from the bladder wall, and lastly removal of the entire device. We performed a bladder integrity test with methylene blue, which did not detect injury. Subsequently fibrotic vaginal mucosa was trimmed and a simple colporrhaphy was performed.
The main challenges we encountered during the removal were the need to completely isolate the frame laterally and the fact that the frame was not made of a single piece, thus it tended to open during the traction causing a fragmented removal of the mesh. In any case, the procedure turned out to be possible without incurring any particular complications.

CONCLUSIONS

Techniques for removal of traditional vaginal mesh and associated complications and difficulties have been extensively described, providing practical suggestions for excision of eroded vaginal mesh.
To date no description of how to proceed in case of complications of a Lyra SRS device has been given instead. That is the reason why we believe that sharing experiences is important for proper management of new devices and their associated complications.
In our experience, complete removal of a Lyra Self-Retaining Support Implant was possible in the medium term after its placement.

66 - A NOVEL SLIDING EXTRACORPOREAL KNOT TECHNIQUE FOR PELVIC FLOOR SURGERY

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INTRODUCTION

Difficulties in intracorporeal knot tying can be overcome by extracorporeal slip knots, which make it simple to tie and manage the tension between the approximated tissues with the aid of a knot pusher. However, known extracorporeal knot techniques are difficult to perform due to their recall, dexterity with thin yarns, and need for training.

OBJECTIVE

We developed a new laparoscopic extracorporeal slip knot technique that can be used with a conventional needle driver or any clamp like those used in open surgeries, with the advantages of being inexpensive and simple to learn and apply.

METHODS

The technique has been described step-by-step: Pass the active strand over the other loop and hold the cross with the thumb and index finger of the non-dominant hand. Wind the Kelly clamp around both loops three times in a tornado motion. Pass the tip of the instrument over the active loop and under the passive loop and grasp the limb of the active strand with the clamp. Pull on the passive strand to bring the knot close to the tissue being sutured. Tighten and lock the knot with the tension of the passive strand.

RESULTS

We used this knot technique in several laparoscopic sacrocolpopexy, colposuspension, pectopexy, myomectomy and hysterectomy procedures to facilitate operations without any complication and difficulty. In over a hundred surgical procedures, the technique has been practiced safely and with ease.

CONCLUSIONS

This new technique, which can be formed with the aid of conventional hand instruments and uses a needle holder as a knot pusher or without the need of a knot pusher, is feasible, faster, stronger, and applies more tension than conventional knot methods.

67 - TRANSVAGINAL EXCISION OF VAGINAL PARAURETHRAL LEIOMYOMA: A VIDEO CASE REPORT.

Clarissa Costa [(1)] - **Marta Barba** [(1)] - **Alice Cola** [(1)] - **Matteo Frigerio** [(1)]

Irccs San Gerardo Dei Tintori, Dipartimento Di Ginecologia, Monza, Italy [(1)]

INTRODUCTION AND AIM OF THE STUDY

Vaginal leiomyomas are uncommon benign tumors of the genital district that primarily occur in women in their reproductive years. They usually appear as a circumscribed, mobile, and nontender mass along the vaginal tube.(1) These lesions may be asymptomatic or may cause symptoms such as pelvic pressure, vaginal bulging, vaginal bleeding, dyspareunia, and/or urinary tract symptoms.(2)
Preoperative diagnosis of a vaginal benign smooth-muscle tumor can be achieved with imaging evaluation and needle biopsy (3). The treatment of choice is surgery through vaginal enucleation. Nevertheless, this procedure may be technically challenging and associated with relevant complications.
With this video, we aimed to present a case of vaginal leiomyoma surgical repair through transvaginal excision and primary layered repair.

MATERIALS AND METHODS

A 44-year-old woman was referred to our division for vaginal bulging symptoms and dyspareunia. Clinical examination revealed a 4-5 cm hard bulging mass in the anterior vaginal wall, below the urethra. (Figure 1)
After proper counselling, the patient was admitted to transvaginal vaginal leiomyoma excision plus primary layered repair. (Video 1)

RESULTS

No surgical complications were observed. The indwelling catheter was removed on postoperative day 1 and the patient was successfully discharged home on postoperative day 1. The patient is currently asymptomatic and there are no signs of recurrence.

INTERPRETATION OF RESULTS

Transvaginal surgical excision represents the treatment of choice for women with vaginal symptomatic leiomyomas and is associated with excellent cure rates. Other surgical options, such as abdominal approach with or without concomitant hysterectomy, can be considered in case of large tumor dimensions and unfavorable location.
Although only few studies reported vaginal and paraurethral leiomyoma recurrences, clinical follow-up is fundamental to diagnose early relapse and malignant evolution.

CONCLUSIONS

The procedure was successful in achieving anatomical repair and relieving symptoms. This approach represents a valid procedure for the surgical management of this uncommon condition.

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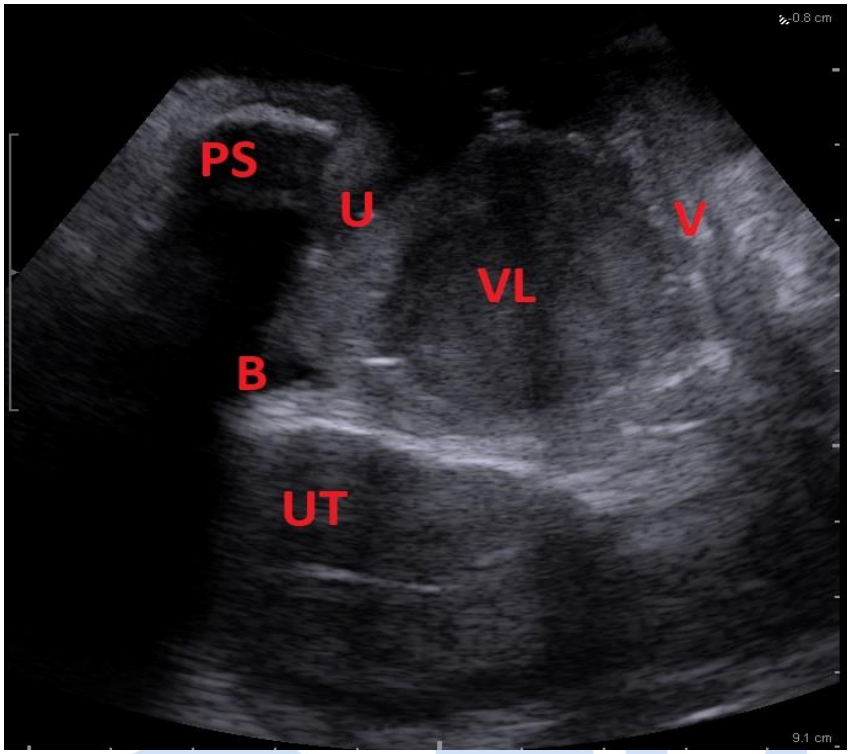
Figure 1. Ultrasound imaging of vaginal leiomyoma



68 - INDOCYANINE GREEN FOR VISUALISATION OF URETERS AT LAPAROSCOPIC HYSTERECTOMY AFTER PREVIOUS MESH HYSTEROPEXY

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INTRODUCTION AND AIM OF THE STUDY

Ureteric injury occurs more during gynaecological surgery than any other speciality[1] with intraoperative detection rates reported as low as 8.6%, compared with 70% in the postoperative period[2].
The visulaisation of ureteric jets on intraoperative cystoscopy remains controversial and only helps detect injury after it has occurred. Although meticulous dissection and attention to ureteric anatomy are paramount, various additional techniques have been utilised to aid identification of the ureters to reduce iatrogenic injury. These include the introduction of ureteric stents or illuminated stents. Although ureteric stenting is perceived to be safe, there have been reports that iatrogenic ureteric injury can occur during the introduction of the stent and increases the risks of haematuria and clot ureteric colic. Furthermore, evidence suggests that although intraoperative stenting may alleviate surgeon anxiety, it doesn't appear to reduce perioperative ureteric injury[3].
Indocyanine green (ICG) is a fluorochrome that can be injected intravascularly to visualize vascular and lymphactic channels. Early reports have suggested that cystoscopic injection of ICG into the ureters is a beneficial addition at laparoscopic / robotic surgery for identification of the ureter. We present a case video sharing our experience utilising intraureteric ICG during laparoscopic hysterectomy in a patient who had previously had a laparoscopic sacrohysteropexy where there were concerns the anatomy of the ureters may be distorted by previous surgery.

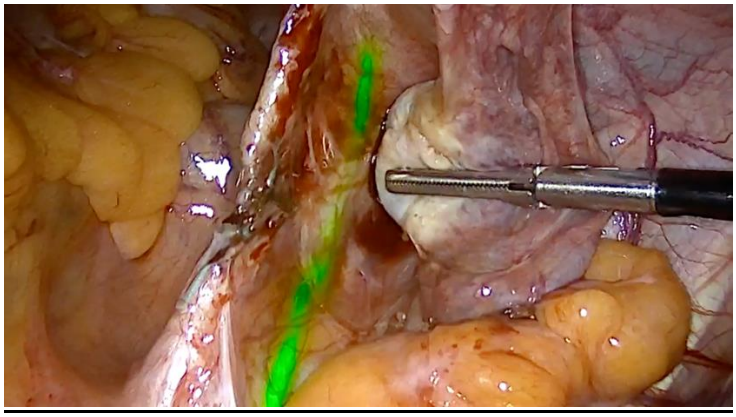
MATERIALS AND METHODS

The patient was a 52 year old woman with symptomatic prolapse. After preoperative counselling regarding various treatment alternatives, she opted for laparoscopic sacrohysteropexy. This was performed without complication, however 6 months after initial surgery, the patient was not happy with the result. The leading edge of the prolapse (point C) was still at the level of the introitus (C=0). MRI demonstrated the mesh was correctly located and had not become detached either from the sacrum or cervix. It was agreed that an examination under anaesthetic and laparoscopy would be performed to assess if the mesh had slipped up the body of the uterus or could be shortened. The findings of the MRI were confirmed at laparoscopy. A combined laparoscopic and vaginal approach was deemed most prudent and a cystoscopy was performed prior to commencing the laparoscopy. At cystoscopy 2.5ml of Indocyanine green (ICG) was injected cystoscopically into each ureteric orifice followed by 5mls normal saline. Total laparoscopic hysterectomy was then performed in the routine fashion.

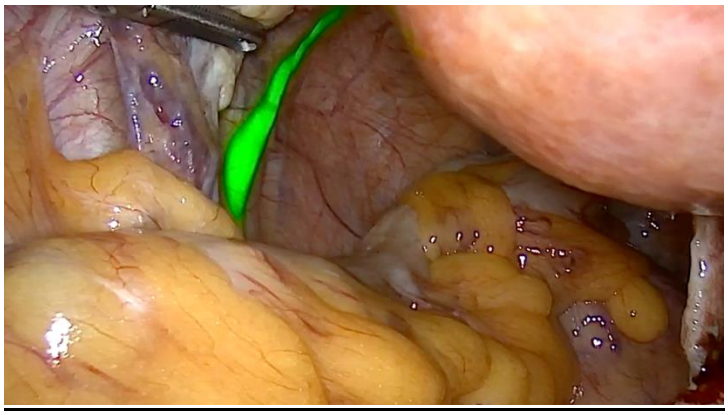
RESULTS

We present an edited video presentation of a laparoscopic hysterectomy and partial excision of mesh with the utilisation of intraureteral ICG to visualise the anatomy of the ureters.

INTERPRETATION OF RESULTS



The use of Indocyanine green (ICG) clearly helps visualise the anatomy of both ureters as seen in the adjacent figures, reducing the risk of iatrogenic injury during division and excision of the hysteropexy mesh and subsequent laparoscopic total hysterectomy.



CONCLUSIONS

These eary data suggest intraureteric ICG effectively augments identification of the ureters during laparoscopic gynaecological surgery and may help reduce the risk of ureteric injury in complex procedures. The introduction of intraureteric ICG is safer and quicker than intraoperative ureteric stenting.

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69 - A NOVEL SURGICAL TECHNIQUE IMPLEMENTING THE INTEGRAL THEORY IN THE TREATMENT OF POST HYSTERECTOMY VAULT PROLAPSE.

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INTRODUCTION AND AIM OF THE STUDY

The integral theory describes the balance of forces applied on women's pelvic floor connective tissue, providing the basis of normal pelvic function. Interruption of this unique balance by obstetrical trauma or pelvic surgery can cause pelvic organ prolapse and dysfunction. Most of the surgical procedures performed today focuses on restoring site specific anatomy and ignoring the fundamental principles of the Integral theory. We present a surgical technique for the treatment of post hysterectomy vaginal vault prolapse that restores the balance of the forces in the pelvic floor by implementing the principles of the integral theory.

MATERIALS AND METHODS

The presented surgical procedure restores the continuation of connective tissue support structures in the pelvis using an artificial implant. The structure of the implant provides the continuation of uterosacral ligament in the post hysterectomy patient by replacing the cardinal ligament and arcus-tendinous-fascia-pelvis (ATFP) using synthetic implant. The surgical procedure includes the following steps: identifying the stumps of the uterosacral ligaments (post hysterectomy) and infiltrating the vaginal submucosa with diluted Adrenalin-Marcaine solution. In case of post hysterectomy vault prolapse the vaginal mucosa between the 2 uterosacral ligaments is removed in a diamond shape. Dissection toward both ischial spines is performed. The anterior vaginal wall is dissected of the bladder up to the bladder neck (located by palpation of the foley catheter balloon). Using absorbable suture material, the tips of the Self Retaining Support (SRS) implant is sutured to the uterosacral stumps. The SRS implant is then inserted under the bladder with the arms towards the ischial spines and the bridge at the bladder neck under the anterior vaginal mucosa. The vaginal surgical opening is sutured horizontally after tying the uterosacral stumps to the tips of the SRS arms. Posterior colporrhaphy and Perineorrhaphy is performed as needed. At the end of the procedure vaginal packing soaked with betadine is inserted for 24 hours.
Women with advanced (stage III or IV) pelvic organ prolapse which elected surgical treatment were recruited to the study. Women requested uterine preservation were excluded from the study. Women who elected hysterectomy were recruited to the study to have the surgical technique performed after hysterectomy at the same time. All women signed informed consent with detailed explanation regarding the possible risks of vaginal mesh implants. Women were given a validated PFDI20 quality of life questionnaire prior to the surgical procedure. Women were invited for follow up visits at 3, 6 and 12 months. Follow up included POP-q exam and validated Quality of life questionaries.

RESULTS

70 women were recruited and underwent the procedure under general anesthesia. Average age was 63-year-old, average parity of 2, pre-operative average POP-q Ba measured 3.6cm and C was 1.9cm. Median length of stay was 2 days. No intra operative or immediate post operative complications were documented except one patient with peri vesical hematoma that was treated conservatively. Only 6 patients (8.5%) were not in menopause. 10 (14%) patients had diabetes and 11 (15%) were smokers, 35 patients had concomitant vaginal hysterectomy. Average score of the PFDI20 question # 3 was 3.89 points prior to the procedure compared to 0 postoperatively. At follow up the average POP-q Ba measurement was -2.6cm and vaginal apex (point C) at -6.8cm. Average follow up was 28 weeks.

INTERPRETATION OF RESULTS

The integral theory describes the continuation of connective tissue ligamentous structures as the basic principle of pelvic floor anatomy and function. The uterosacral ligament stumps connected to the tips of the SRS with the solid frame simulates the cardinal lament and the ATFP toward inner aspect of the pubic bone. Positioning of the Uterosacral ligament stumps at the ischial spines reconstruct the vaginal apex to the physiologic position and placing the absent cervical portion of the vaginal wall as part of the anterior compartment.
The importance of implementing the Integral theory in the surgical reconstruction of the pelvic anatomy is crucial in avoiding post-surgical pelvic dysfunction which characterizes most of the surgical techniques for treatment for pelvic organ prolapse. No chronic pelvic pain or De Novo urinary dysfunction was documented in our patients which support the assumption that restoring the force balance of the pelvic compartments anatomically can provide treatment of pelvic floor dysfunction.

CONCLUSIONS

Although this is a small cohort of patients with a short term follow up, this surgical technique demonstrates the importance of the integral theory principals in the surgical treatment of pelvic organ prolapse. Longer follow up of this technique is required to confirm its safety and efficacy.

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70 - ROBOT ASSISTED VESICO-VAGINAL FISTULA REPAIR AFTER CERVICAL CONIZATION

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INTRODUCTION AND AIM OF THE STUDY

Vesicovaginal fistula (VVF) is an abnormal fibrous connection between the bladder and vagina characterized by continuous leakage of urine from the vaginal canal. In the developed countries the causes are usually iatrogenic: up to 83% of VVF are complications of gynecological surgery with prior hysterectomy being the most common cause. Only a few cases of vesicovaginal fistula have been described after minor cervical procedures.
Surgical repair of VVF can be done both from the vaginal and the abdominal route. We present a video of robotic-assisted (RAS) repairing of VVF which developed after conization.

CASE REPORT

A 62 years-old woman was referred to us for a suspicion of VVF. She was complaining of continuous urinary loss. About two-weeks before, she had received treatment for high-grade cervical dysplasia, by cold-knife conization. We decided to perform an extrafascial hysterectomy and bilateral salpingo-oophorectomy followed by VVF repair by RAS. In our video we describe a step-by-step procedure for VVF repair: first, we performed an extrafascial hysterectomy and bilateral salpingo-oophorectomy according to the typical technique. The vesicovaginal space was then dissected until the vesical side of the fistula was exposed and the bladder opened. Bladder posterior wall was mobilized and ureteral orifices visualized from the bladder side. The fistulous tract was excised and the bladder wall was sutured. We then tested for any leakage by filling the bladder with indocyanine green. Finally, we closed the vagina with a double-layer barbed suture, with interposition of an omental flap between the bladder and vaginal sutures.

DISCUSSION AND CONCLUSIONS

The choice of surgical route for VVF repairing depends on the surgeon's experience, the location and size of the VVF. In general, simple fistulas are managed by the vaginal approach. This is the lesser invasive, and has the benefits of minimal blood loss, shorter hospital stays and less postoperative morbidity. Laparoscopy may have the advantages of better visualization and dissection of surgical spaces and direct visualization of ureteral courses. In our case the choice of RAS was justified by the need to perform a concomitant extrafascial hysterectomy and bilateral adnexectomy in a patient with a previous cesarean section and cervical dysplasia. We believe that RAS could facilitate both dissection and suturing, which in VVF repairs could be difficult tasks. A multidisciplinary approach involving urologists is mandatory. According to our urologists, there was no need for prophylactic ureteral stents. In conclusion, our case demonstrates that RAS is a feasible and useful approach for VVF repairs.

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71 - VAGINAL NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY (V-NOTES) FOR MINIMALLY INVASIVE HYSTERECTOMY

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INTRODUCTION AND AIM OF THE STUDY

The vaginal route is considered the surgical approach of choice in cases of hysterectomy for benign pathology, due to its lower complication rate, shorter operating time and faster postoperative recovery. Despite this, vaginal surgery is losing ground in gynecological surgical learning and is being increasingly replaced by the laparoscopic approach, which generates great interest due to its feasibility and the more intuitive teaching. Vaginal hysterectomy limits also include difficulties due to the limited operating space, the volume of the uterus, the uterus mobility in absence of prolapse, and the characteristics of the patient. For all these reasons, it is of huge interest to find a technique that can overcome all these limitations while maintaining the great advantages of the vaginal approach and allowing reconstructive functional surgery through the same route.
Vaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES) is a truly promising technique thanks to the combination of the minimal invasiveness of vaginal surgery and the efficiency of laparoscopic one.
The aim of the study was to assess the safety and efficacy of V-NOTES technique for minimally invasive hysterectomy.

MATERIALS AND METHODS

We selected women requiring hysterectomy with or without additional adnexal surgery for benign conditions. Exclusion criteria were patients with rectovaginal endometriosis, previous rectal surgery, previous pelvic radiotherapy, history of a previous total hysterectomy or mesh sacrocolpopexy, and gynecological cancer.
We analyzed patients' characteristics, intraoperative blood loss, surgical and post-operative complications, operating time, hospitalization days and post-surgical pain through a 10-cm visual analogue scale (VAS).

RESULTS

19 women were selected and underwent vaginal hysterectomy with V-NOTES technique. The mean average age was 54,9 y.o. and 42% (8/19) of women were in menopause. All but one of the patients had had at least one vaginal delivery. Surgical indications included uterine fibroids (10/19, 52,6%), endometrial hyperplasia (3/19, 15,8%) and pelvic organ prolapse (6/19, 31,5%). The 11 of them were simple hysterectomies, while the other 8 were hystero-adnexectomies (both salpingectomies and salpingo-oophorectomies). Mean operating time was 82,1minutes (not including the time required for any reconstructive surgery in case genital prolapse was the indication). In only one case was it necessary to convert to abdominal laparoscopy because of the presence of multiple uterine fibroids positioned in a way that precluded insertion of the required instrumentation. No intraoperative complications were encountered, and blood losses were unremarkable during all procedures.
Post-operative pain assessed by VAS scale was mild in all patients with an average score of 2,3. The average hospital stay of the women was 2,7 days.

INTERPRETATION OF RESULTS

In our experience, the VNOTES technique has proven to be effective and safe in performing hysterectomies for multiple indications. This technique has made it possible to combine the advantages of the vaginal approach in terms of blood loss and better postoperative recovery of patients with those of the laparoscopic route in terms of better visibility and easier approach to anatomical structures, particularly vascular ones. use of this procedure does not appear to be associated with increased operative time, postoperative pain, or even days of hospitalization compared with standard vaginal and abdominal approaches.

CONCLUSIONS

VNOTES is an efficient approach to performing a vaginal hysterectomy respecting minimal invasiveness while adding the advantages of excellent visualization of structures, easier access to surgical field, faster operating time, less post-operative pain and faster patient recovery.

72 - PLATELET RICH PLASMA FOR THE TREATMENT OF STRESS URINARY INCONTINENCE—A RANDOMIZED TRIAL

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IMPORTANCE
Urinary incontinence affects millions of women worldwide.

OBJECTIVES
The aim of the current study was to evaluate the efficacy and safety of periurethral platelet rich plasma (PRP) injections in women with stress urinary incontinence (SUI).

STUDY DESIGN
This was a single center, double-blind, randomized sham-controlled trial. The CONSORT recommendations were followed for the identification process of participants, as well as the flow of participants through the trial. Fifty participants with urodynamic stress incontinence were randomized in 2 equally sized groups. Women in PRP group received 2 PRP injections at 3 levels of the urethra at 4-6 week intervals. Women in the sham group were injected with sodium chloride 0.9%. At baseline participants underwent urodynamic studies, a 1-hr pad test and completed the ICIQ-FLUTS and KHQ questionnaires. At follow up visits (1,3 and 6 months) women underwent the 1hr-pad test and completed the KHQ, ICIQ-FLUTS and PGI-I. Primary outcome was the subjective evaluation as indicated by the response to question 11a of ICIQ-FLUTS questionnaire. Secondary outcomes included scores of questionnaires and urine loss of the 1hr-pad test. The level of discomfort during injections and any adverse events were also evaluated.

RESULTS
During follow-up, the mean score of the 11a question decreased significantly in the PRP group compared to sham. Subjective cure was significantly higher in the PRP group (32% vs 4%, p<0.001). A significant reduction of urine loss in the 1hr-pad test was observed in the PRP group compared to sham during at 6-month follow-up. No adverse events were observed.

CONCLUSIONS
Periurethral PRP injections were superior to sham injections in improving SUI symptoms with an excellent safety profile.

Table 1. Sample characteristics, by group

	Group	
	Sham (N=25; 50%)	PRP (N=25; 50%)
	N (%)	N (%)
Age, mean (SD)	57.2 (8)	55.4 (12.3)
BMI, mean (SD)	26.1 (2.8)	26.5 (2.8)
BMI		
Normal	9 (36.0)	6 (24.0)
Overweight	13 (52.0)	16 (64.0)
Obese	3 (12.0)	3 (12.0)
Parity		
1	9 (36.0)	7 (28.0)
2	12 (48.0)	13 (52.0)
3	4 (16.0)	5 (20.0)
Meanopause	20 (80.0)	18(72.0)

BMI: Body mass index

Table 2. Participants' ICIQ-FLUTS Score to question 11a throughout the follow-up period, by group

		T0	T1	T3	T6	Difference T0-T6	
	Group	Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)	Mean (95% CI)	P[1]
ICIQ-FLUTS Score to question 11a. *"Does urine leak when you are physically active, exert yourself, cough or sneeze?"*	Sham	3.2 (0.14)	3.28 (0.11)	3.32 (0.11)	3.16 (0.14)	-0.04 (-0.23 ; 0.15)	<0.001
	PRP	3.36 (0.13)	3.16 (0.12)	2.72 (0.16)	1.76 (0.19)	-1.6 (-1.83 ; -1.36)*	

Note: ICIQ-FLUTS Score to question 11a ranged from 0 to4; *Significant time difference; [1]p-value for interaction term of time and treatment group

ICIQ-FLUTS: Incontinence Questionnaire-Female Lower Urinary Tract Symptoms

Figure 1. PGI-I changes throughout follow-up period, by group

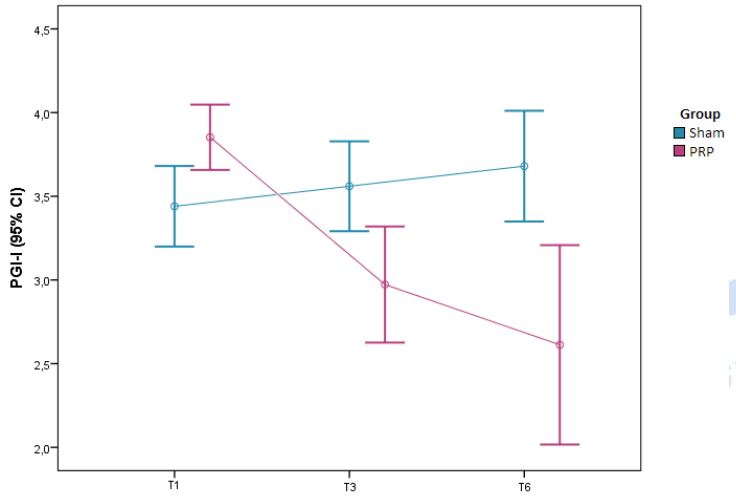

Table 3. PAD test results throughout the follow-up period, by group

	PAD test				
	T0	T3	T6	Difference T0-T6	
Group	Mean (SE)	Mean (SE)	Mean (SE)	Mean (95% CI)	P[1]
Sham	14.7 (1.3)	14.3 (1.4)	15.2 (1.7)	0.5 (-1.4 ; 2.3)	<0.001
PRP	15.6 (1.4)	13.4 (1.3)	8.7 (1.2)	-6.9 (-8.5 ; -5.3)*	

*Significant time difference; [1]p-value for interaction term of time and treatment group

73 - THE EFFECT OF PREGNANCY ON STRESS URINARY INCONTINENCE RECURRENCE FOLLOWING TENSION-FREE VAGINAL TAPE: A META-ANALYSIS AND SYSTEMATIC REVIEW

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INTRODUCTION AND AIM OF THE STUDY

One of the major contributing factors for Stress urinary incontinence (SUI) is pregnancy and childbirth. A unique group of women who have not yet completed their family planning and seek surgical treatment for SUI, pose a clinical dilemma as for the potential determinantal effect of additional pregnancy and childbirth on their surgical outcome. Our objective was to assess the risk for SUI recurrence and reoperation rate following childbirth in women who had undergone a midurethral-sling (MUS) procedure for SUI and to assess the effect of delivery method on this risk.

MATERIALS AND METHODS

We performed an electronic search using MEDLINE® with the OvidSP interface PUBMED, Embase, Web of Science and Cochrane Library up to August 8th, 2022. We included experimental and non-experimental studies, comprising of randomized controlled and observational (case-control, cohort, cross-sectional) studies assessing risk factors for SUI recurrence and reoperation following childbirth in women who had previously undergone a MUS procedure for SUI. Eligible studies were assessed by two independent reviewers.

RESULTS

A total of 1864 studies were identified of which six were eligible for analysis, comprising 381 patients who had childbirth following MUS procedure (study group), and 860 patients who underwent a MUS without having a subsequent childbirth (control group). No differences in SUI or reoperation were found between the study and control group. Furthermore, differences in SUI or reoperation were found between vaginal delivery and caesarean section.

INTERPRETATION OF RESULTS

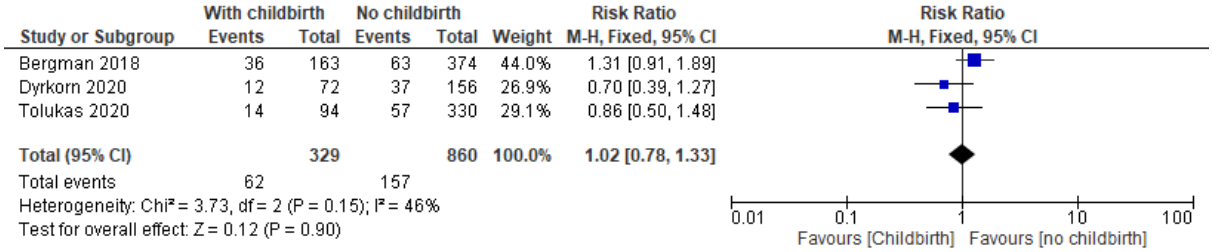
This is the first meta-analysis to evaluate on the effect of childbirth on the risk for recurrence and reoperation of women who had undergone a MUS procedure for SUI. We presented that no differences in SUI recurrence or reoperation were found comparing vaginal birth and cesarean section. We believe that the decision of mode of delivery should take into account more variables than just the presence of a previous MUS procedure. The physician should discuss the options and together with the patient make a personal based decision, that beside obstetrical indications for cesarean delivery should acknowledge the patients past obstetrical and non-obstetrical history.

CONCLUSIONS

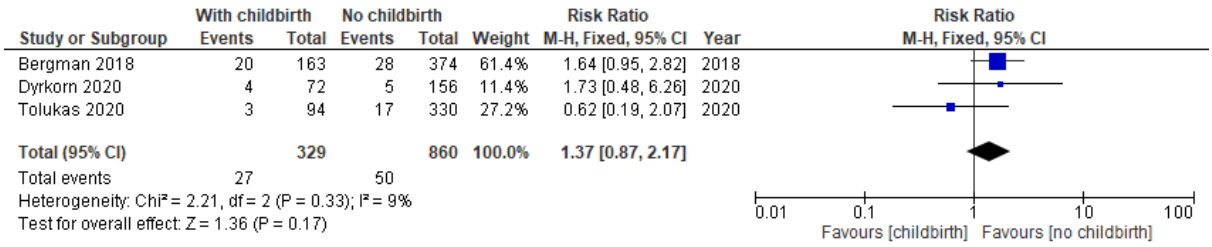
The study results suggest that women at reproductive age who consider undergoing a MUS may be advised that subsequent pregnancy and delivery not necessarily increase their risk for SUI recurrence or reoperation following this procedure.

Figure: Forest plots for risk following childbirth

A: Risk for SUI recurrence



B: Risk for MUS re-operation



74 - THE USE OF ENERGY BASED DEVICES FOR THE TREATMENT OF STRESS URINARY INCONTINENCE: A SYSTEMATIC REVIEW OF LITERATURE AND META-ANALYSIS OF RANDOMISED CONTROL TRIALS

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INTRODUCTION AND AIM OF THE STUDY

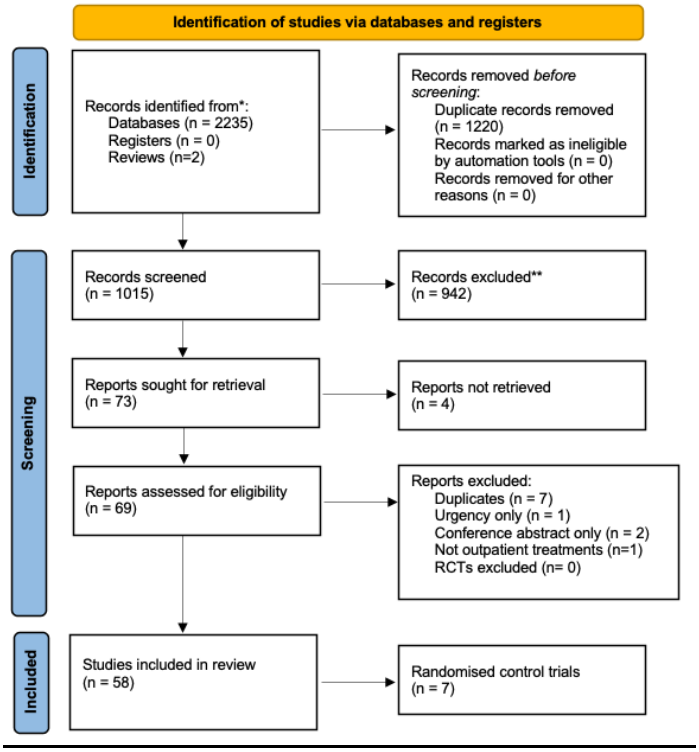
Approximately 35% of adult women are affected by urinary incontinence. The main causes in women are weakening of the pelvic floor muscles and damage to the connective tissues which support the bladder and urethra. Physiotherapy is the first line treatment for stress urinary incontinence (SUI) but if this is insufficient surgery is indicated which targets the connective tissues of the endopelvic fascia. Collagen comprises up to 80% of the protein within the endopelvic fascia and is the primary structural component of the connective tissues. Several EBD's have now been developed with the aim of promoting new collagen formation and strengthening of the suburethral hammock as an alternative treatment to surgery. However, each type of EBD has a different mode of action. CO_2 fractional laser is ablative whereas Erbium YAG laser (Er: YAG) can be ablative or non-ablative. Radiofrequency devices emit focused electromagnetic waves which penetrate tissues causing heat to be produced through the absorption of waves which accelerates metabolism.
Several societies do not recommend using vaginal lasers in routine clinical practice until there are more high powered randomised control trials (RCT) to support their efficacy. The data from different RCT's has been conflicting making interpretation difficult.

MATERIALS AND METHODS

We performed a systematic review has been performed in accordance with the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines and has been registered with the Prospero database (Nr. CRD42023423833). The searches utilised 'One Search', Medline, the Cochrane Library and Embase. For the systematic review we only included all RCT's, or observational studies for EBD's and SUI with more than 50 patients and follow up of 6 months minimum. Only RCT's were identified and included for meta-analysis. Studies were excluded if they were not in English and involved participants under the age of 18. Studies which are of a high quality, but not yet published were also included. Studies looking at genitourinary syndrome of menopause (GSM) which included objective data on SUI were also evaluated. The full texts were retrieved and independently assessed for eligibility by two team members. Assessment of studies included; 1) PRISMA checklist, 2) AMSTAR2 (A Measurement Tool to Assess Systematic Reviews) for methodological quality assessment and 3) Cochrane risk-of-bias tool (RoB 2) assessment tool. For the meta-analysis, the "meta" package in R version 4.1 tool was used allowing combination of effect estimates from multiple studies and evaluation of variability among them. We extracted relevant data, including sample size, effect size (odds ratios or mean differences), standard deviations, and important demographic or clinical details, from the included randomized controlled trials (RCTs). Variations in true effect sizes across studies was assessed using a random-effects model and heterogeneity between the studies assessed using the I^2 statistic, which measures the proportion of total variation in estimates caused by genuine differences rather than chance.

RESULTS

Our search identified 2237 journal articles of which 1220 were duplicates and excluded. 58 relevant articles: 30 were observational studies, 9 cohort, 2 case series and 17 were randomised control trial which met the inclusion criteria. 10 RCTs were excluded as the quality of the data / results did not provide data on SUI. 5 RCT's evaluated the CO_2 laser, 2 RCT's evaluated the Er YAG and 3 radiofrequency. The PRISMA flow diagram is outlined in Figure.



The quality assessment tool showed moderate quality of the studies included. Both observational studies and RCT's on Er-YAG concluded that laser treatment improved SUI and sexual function. Better outcomes were particularly seen in those with mild and moderate SUI compared to severe SUI. On the other hand, CO2 laser observational studies focused more on postmenopausal women with GSM. Observational studies demonstrated good efficacy for CO2 laser but RCT's on CO2 laser were conflicting. RF had fewer observational studies. RCT's comparing RF to sham were of lower quality.

INTERPRETATION OF RESULTS

We performed a meta-analysis with strict inclusion criteria which only evaluated RCT's comparing each EBD modality with sham and excluded observational studies and RCT's that did not have a sham arm in order to generate the most robust data for analysis. The systematic review also had strict inclusion criteria (outlined in methods) and strict primary outcome measures for SUI, (ie: either UDS, 1-h pad test quality assessment tool, which showed moderate quality of the studies included or validated questionnaires such as quality assessment tool, which showed moderate quality of the studies included. The ICIQ-SF. In our meta-analyses we employed a random-effects model, recognizing its capacity to account for variability in true effect sizes across studies. This model helped us achieve a pooled estimate that acknowledged potential differences in study populations, protocols, and settings. All mentioned methods offered a visual and statistical approach to evaluate any significant asymmetry that could indicate a publication bias.

CONCLUSIONS

Based on the limited clinical evidence, our meta-analysis showed prior efficacy of some EBDs over placebo intervention. However, the results of this meta-analysis should be taken with caution due to the limited amount of available evidence and the heterogeneity among the included studies.

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75 - A SAFER MINIMALLY INVASIVE LAPAROSCOPIC BURCH COLPOSUSPENSION USING ICG-NIR: A BOON TO UROGYNECOLOGISTS IN TRAINING

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence [SUI] is a matter of grave concern and a social menace for women both physically and psychologically. SUI is defined by the International Continence Society as "the complaint of involuntary urinary leakage on effort or exertion, or on sneezing or coughing, the prevalence of which is very high. This is owing to weakened pelvic floor muscles due to childbirth, advancing age or menopause and obesity. The addressal of this issue comes with Burch colposuspension, having a 50 year plus history and strong long term outcomes with few complications[1].The apprehension of bladder injury holds this surgery back. To overcome this, we adopted a safer minimally invasive Burch colposuspension using Indocyanine green [ICG]. ICG is a fluorescent dye: when activated by near infrared fluorescence (NIRF) light, it can visualize the desired anatomical structure in real time. It is very suitable for intraoperative use because of its tissue penetrating ability, high signal-to-noise ratio, and excellent safety[2] .With ICG, the possibility of genitourinary harm is lessened and it would be a boon for urogynecologists in training to adopt this surgery. The aim of this study is to perform a safer minimally invasive laparoscopic Burch Colposuspension using ICG in 50 patients and assess postoperative outcomes over a period of three years.

MATERIALS AND METHODS

This is a hospital based prospective cohort study wherein 50 women presenting with SUI , fulfilling the inclusion criteria, willing to participate in the study and giving a written informed consent were enrolled ; Laparoscopic Burch colposuspension was performed by a single surgeon. Standardized data collection on a predesigned study proforma was done which included a detailed history and examination alongwith routine investigations. A meticulous pre anesthetic checkup was performed. Upon induction,under all aseptic precautions, 10 ml of saline was instilled in a vial of ICG. Under a cystoscopic guidance, ureteric catheters were placed bilaterally and 3 ml of this ICG preparation was instilled on each side. Primary port of 10mm was placed at the umbilicus. CO2 was insufflated at a pressure of 12-15 mm of Hg. Under vision, two lower lateral ancillary 5 mm ports were made on the left side. Bladder was inflated in a retrograde manner with 300 ml of saline. With a NIRF enabled telescope, ICG infused bladder was seen in green color. This facilitated precise identification and objective assessment of the bladder and tissue perfusion during dissection.

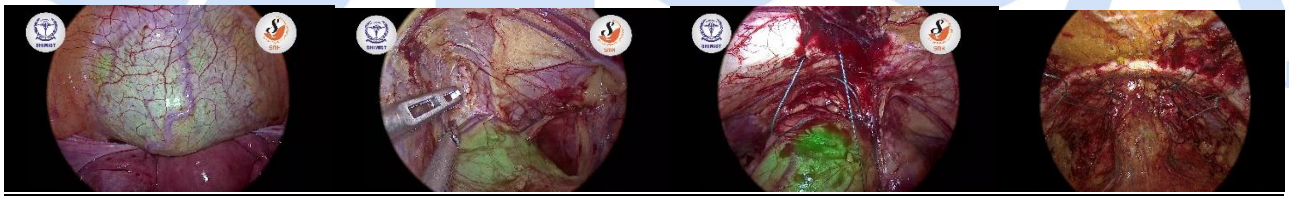

Fig 1(a) ICG infused bladder seen with NIR (b) Dissection of space of Retzius (c) Suture through the endopelvic and vaginal fascial complex at the level of proximal urethra using ICG-NIR (d) Panoramic view of Burch Colposuspension : two sutures on either side, in a tension free manner, at the level of proximal urethra and bladder neck, suspended with the Cooper's ligament.

The space of Retzius was opened and periurethral fat was removed. Two stitches with Ethibond 2-0 were then placed through the endopelvic and vaginal fascial complex, using the index finger vaginally to determine the appropriate depth.The most cephalad suture was placed at the level of the bladder neck (2 cm lateral), and subsequent suture was placed about 2 cm apart caudally. The vaginal sutures were then placed through Cooper ligament and tied loosely (2 to 4 cm suture bridge between vagina and Cooper ligament) in a tension-free manner.Foley's catheter was placed insitu and removed following 24 hours after surgery. Patients were assessed and followed upto 3 years to determine safety and success of surgery. Surgical outcome was evaluated by a cough stress test with a full bladder and symptoms questionnaire.

RESULTS

Among 50 patients undergoing laparoscopic Burch colposuspension using ICG ,there was no evidence of bladder injury, ureteral kinking or urinary tract infection in any of the cases. One patient (0.02%) developed de novo urge urinary incontinence which was resolved after treatment with anticholinergic agents. Two patients(0.04%) required a longer time to regain complete bladder emptying, but their voiding ability returned within 7 days and 12 days postoperatively. The cure rate following laparoscopic Burch colposuspension was 96% with a mean of 32.2 +/- 3.10 months of follow up (range of 24-36 months) while one patient had a recurrence of incontinence around 32 months post surgery.There were

no significant differences in the demographic parameters, urodynamic findings, and peri-operative characteristics among the patients.

Table 1 : Baseline characteristics of patients preoperatively

Characteristics	Values
Age (years)	52.52 +/- 6.54 (42-65)
Menopausal status (n)	17
Duration of incontinence (years)	4.04 +/- 1.69 (2-8)
Presence of cystocele (n) (upto grade 2)	13

*Values are shown as mean +/- SD and the parentheses denote the range of values

Table 2 : Postoperative outcome and follow up

Outcome parameters	Values (n)
Bladder Injury	0
Ureteral kinking	0
De novo urge Incontinence	1 (0.02 %)
Urinary tract infections	0
Voiding dysfunction	2 (0.04%) ; Resolved
Recurrence	1 (0.02%)
Cure rate	98%
Follow up (months)	32.22 +/- 3.10 (24-36)

INTERPRETATION OF RESULTS

In our study, the cure rate with laparoscopic Burch colposuspension using ICG is 96 percent with no instances of bladder injury or ureteral kinking. This is in congruence with the Cochrane metanalysis in 2019 wherein subjective short term success rate was between 57-97 % ; the study by Conrad et al (2019) wherein a long term follow up of patients undergoing laparoscopic burch colposuspension showed cure rates of 90.7 %, the 6th ICS consultation (2017) which defines success rates of this surgery in excess of 80%. The safety of our technique with ICG was higher than the usual procedure.

CONCLUSIONS

With this study, it comes to light that a minimally invasive laparoscopic Burch Colposuspension using ICG has a higher cure rate and very few complications post surgery. This consolidates the safety and efficacy of this procedure , encouraging urogynecologists to adopt this surgery as a gold standard for treatment of SUI and enhancement of the quality of life in women facing this adversity.

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76 - SURGICAL PROCEDURES FOR STRESS URINARY INCONTINENCE IN SWITZERLAND: RESULTS OF A RETROSPECTIVE COHORT ANALYSIS

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INTRODUCTION AND AIM OF THE STUDY

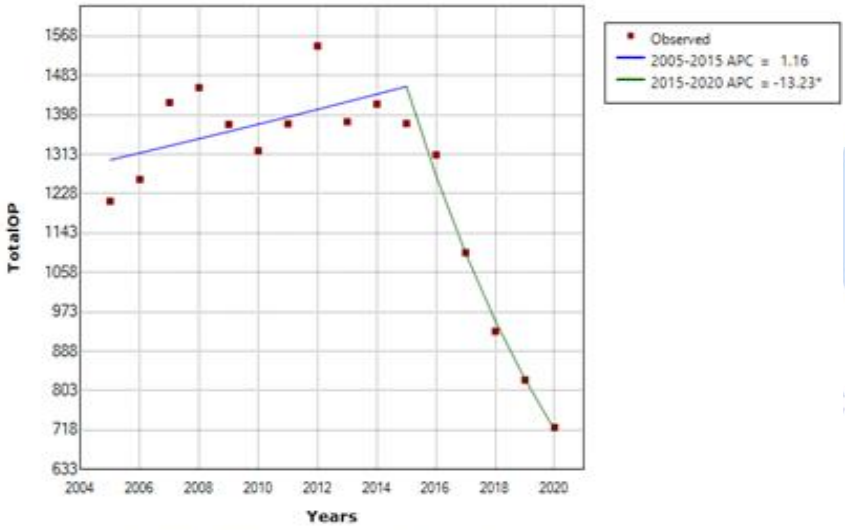
Lifetime risk for surgery for stress urinary incontinence (SUI) is up to 13% and suburethral slings (SUS) are still considered the gold standard of surgical treatment. We describe the overall trends in surgical procedures for SUI in Switzerland with data from the Association of Swiss Women's hospitals (ASF).

MATERIALS AND METHODS

We included all women undergoing surgery for SUI from 2005 and 2020 in a retrospective cohort analysis of ASF database. Joinpoint®-regression analysis was used to calculate trends over the analyzed period of SUS and concurrent operations like colposuspension (laparoscopic and abdominal) or other procedures (e.g. periurethral bulking) as well as to calculate trends of complications.

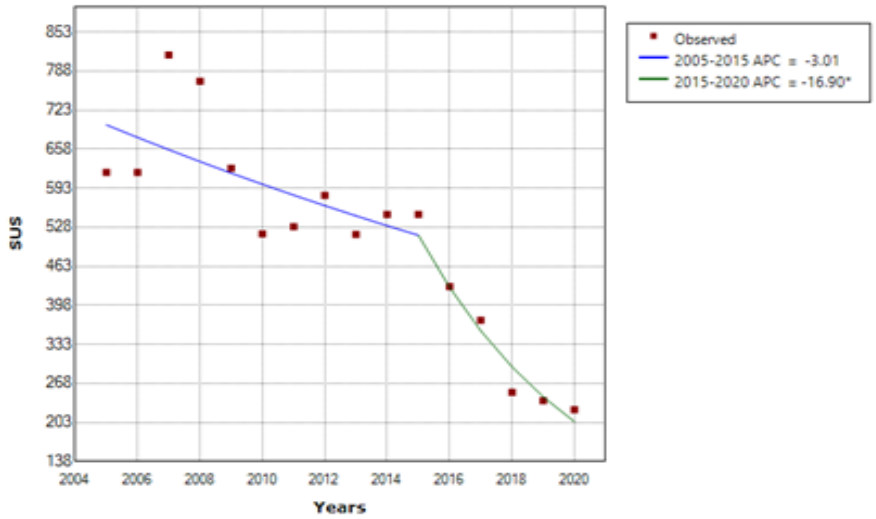
RESULTS

20'058 surgical treatments were included. Overall there was a decrease of surgery of 40.3% from 2005 (n=1212) to 2020 (n=724), peaking in 2014 with 1547 procedures. The Average Annual Percent Change (AAPC) was -3.9 (p<0.001).

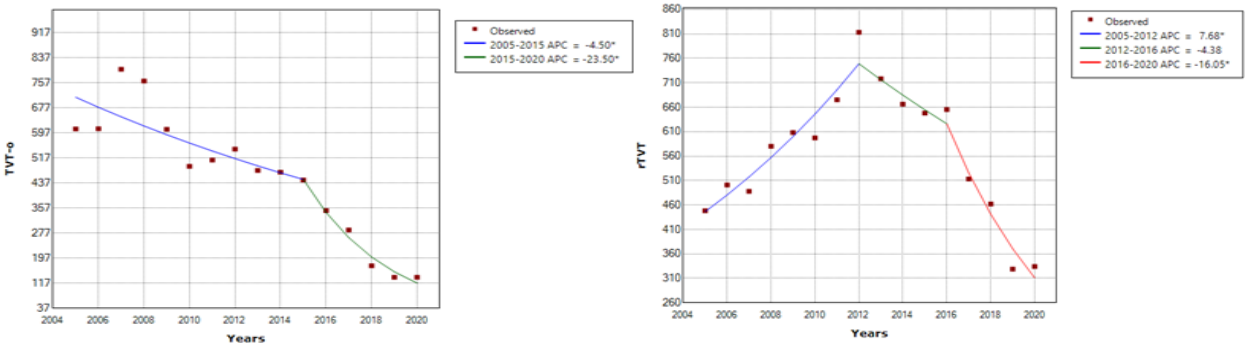


* Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level
Final Selected Model: 1 Joinpoint.

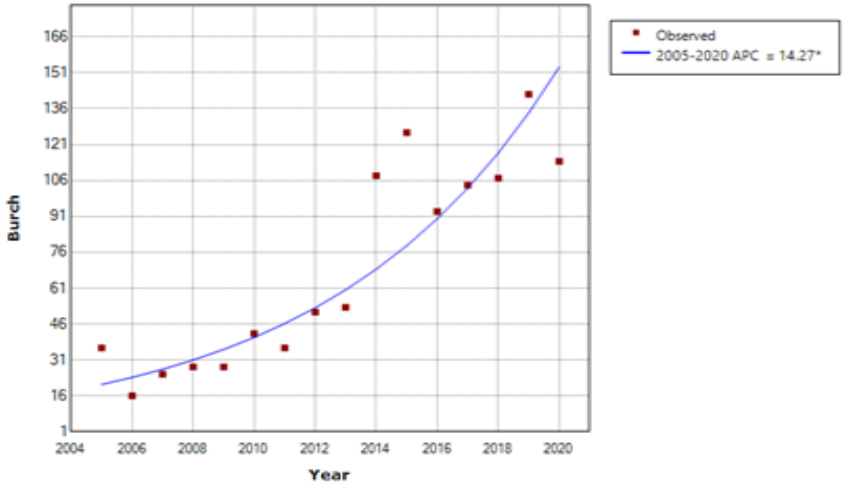
SUS accounted for 87.2% (n=1057) of all included operations in 2005 and decreased to 64.9% (n=470) in 2020 with an AAPC of -6.5 (p<0.001).



In 2005 the majority of SUS were transobturator tapes (57.6%, n=609) in comparison to retropubic (42.4%, n=448), whereas in 2020 inverse distribution with transobturator tapes at 28.9% (n=136) and retropubic slings at 71.1% (n=334) was found. The rate of transobturator tapes dropped significantly over the period (-11.3 AAPC, p<0.001).



In contrast, colposuspension increased over five times from 3% in 2005 (n=36) to 15.7% in 2020 (n=114), with an AAPC of +14.3 (p<0.001). Laparoscopic approach even increased nine fold over the period (2005 n=10, 2020 n=88, AAPC +20.1, p<0.001). The rate of other procedures decreased in absolute numbers but increased in proportion from 10% (n=119) to 19% (n=81).



Complications requiring additional surgical or medical intervention remained unchanged for SUS from 4.4% to 2.8%, whereas decreased from 16.6% to 1.8% in colposuspension (AAPC -9.7, p=0.283).

INTERPRETATION OF RESULTS

Due to the debate on vaginal mesh, SUS have also come under criticism. Such a development could lead surgeons to resort to Burch colposuspension. Because of the extensive medialisation, fewer women overall seem to opt for surgical therapy of SUI in Switzerland.

CONCLUSIONS

The current findings are of great interest: (i) suburethral sling-procedures are decreasing in terms of both number and proportion in Switzerland. Instead, (ii) laparoscopic colposuspension is increasing in numbers (iii) with a comparable rate of early adverse events. These results provide evidence that changes in the treatment of SUI are ongoing, reasons may be due to the Anglo-American discussion of mesh ban, influence of media and training. Future prospective studies are required.

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77 - ARE URETHRAL BULKING AGENT (UBA) INJECTION AS SUCCESSFUL AS LAPAROSCOPIC COLPOSUSPENSION (LC)?

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is a clinical condition of involuntary leakage of urine upon exertion, sneezing or coughing. It is linked to major negative economic impact and highly potential to cause to physical, mental, and emotional disconcertment. SUI is common among women above 40 years of age. Surgical intervention is considered if conservative interventions had failed to restore the continence mechanism. Urethral Bulking Agent (UBA) injections and laparoscopic colposuspension (LC) are among the interventions recommended by the National Institute for Health and Care Excellence (NICE) guidelines for stress urinary incontinence.

Despite the relatively lower success rates reported in the scientific literature, UBA may be considered as a first-line surgical option among women who prefer the least invasive intervention. Compared to open abdominal procedures, the laparoscopic colposuspension presents several advantages including shorter hospital stay and quicker return to daily activities. Whilst both these methods have varying degrees of improvement in terms of quality of life, global improvement, and complications, there are limited studies comparing between these two lines of management. This study aims to compare the quality of life, treatment outcomes, and safety of UBA injections and LC among women with stress urinary incontinence.

MATERIALS AND METHODS

This is a retrospective study which included patients who presented with SUI, utilising non-probability convenience sampling method where data from all patients presented to our centres were included in the analysis. Inclusion criteria were women above the age of 18 years, who spoke English as their first language, and completed the Stress Urinary Incontinence – Patient Decision Aid (SUI-PDA)[1] to indicate their preferred choice of surgery. The ICIQ-UI-SF Questionnaire (International Consultation on Incontinence Questionnaire-Urinary Incontinence Short Form) was then used to evaluate the Symptom Severity (SS) and impact on Quality of life (QoL) among respondents.[2] Treatment outcomes and significant post-operative complications among respondents between the above two lines of management were recorded. Paired t-test were used to determine if there was a significant difference between the mean ICIQ scores among respondents who underwent laparoscopic colposuspension with those who were managed with urethral bulking agents (UBA) injections.

RESULTS

A total of 150 respondents comprising of women who underwent laparoscopic colposuspension (n=67) and women who underwent urethral bulking agent (UBA) injections (n=83) were included in this study. Table 1 depicts the comparison of ICIQ scores, and significant post-operative complications between respondents who underwent LC and UBA injections. The mean age of respondents who underwent LC was 48.7 years (SD=9.29), while the mean age of those who underwent UBA injections was 57.6 years (SD=14.82). Patients with laparoscopic colposuspension had a median follow-up time of 17.5 weeks, while those who underwent UBA were followed-up at 6 weeks post-operation.

Figure 1 depicts the distribution of respondents in this study, and comparison of treatment outcomes between LC and urethral bulking agent (UBA). Among patients who underwent UBA, 36.1% (n=30) were cured upon receiving a single injection. A large majority, or 59% (n=49) of patients who received UBA injections, however, reported of having symptomatic improvement only upon receiving their second or third injection. A small number of respondents (4.9%, n=4) did not experience any improvement at all and subsequently required other surgical interventions. No patients reported any worsening of symptoms upon UBA injections.

In comparison, the majority (91%, n=61) of women who were treated with LC reported symptomatic cure or improvement, not requiring any further intervention. The remaining respondents among those who received LC consists of 4.5% (n=3) with only slight improvement but still requiring further non-surgical treatment, followed by 3% (n=2) with no changes in symptoms and needing further surgical interventions, and 1.5% (n=1) who neither reported any changes in symptoms nor required any further interventions. No respondents reported any worsening of symptoms following LC.

This study found significant statistical difference between pre-operative and post-operative ICIQ scores among patients who underwent LC and UBA ($p<0.001$), indicating success of both treatment options.

Urinary retention was found to be a post-operative complication among respondents who underwent colposuspension (n=3), while bladder injury (n=5) was reported among patients who underwent UBA with (n=3) of them requiring

conversion to laparotomy. There were no significant differences in the symptom severity or quality of life scores between the two procedures (p=0.057).

INTERPRETATION OF RESULTS

Respondents in both groups had significant improvement (p<0.001) of their ICIQ scores. Patients who underwent colposuspension recorded a median reduction from 16.99 at pre-operative to 6.58 at post-operative, while respondents who received UBA reported a median decrease from 16.76 at pre-operative to 9.39 at post-operative. Both treatment options are successful in treating stress urinary incontinence in women. A longer term follow up period for women who received UBA injections is underway.

CONCLUSIONS

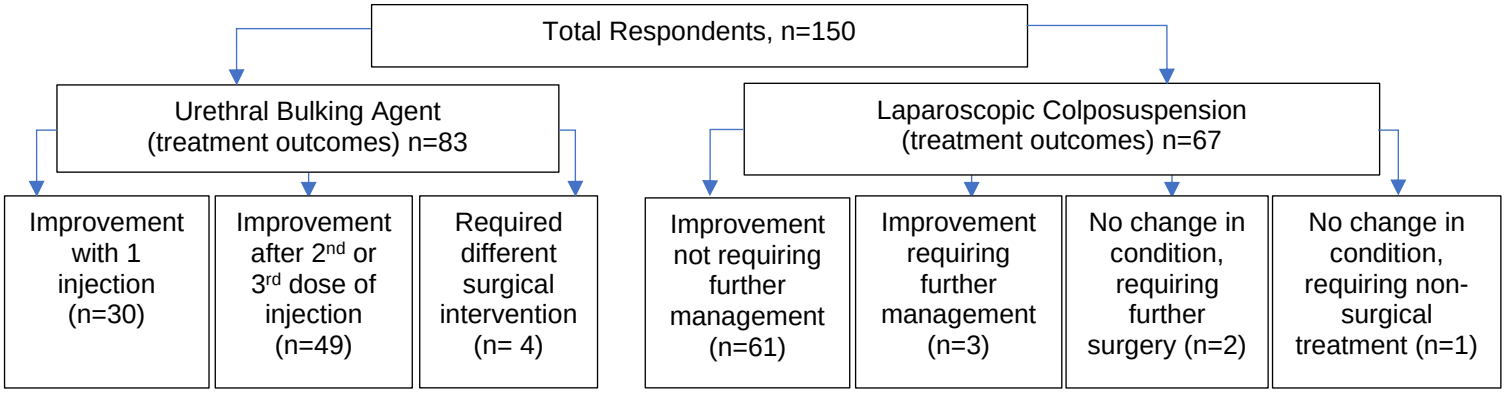
To our knowledge from the literature review, this is the first study to directly compare the laparoscopic colposuspension and urethral bulking agent (UBA) injections among patients with stress urinary incontinence using the validated ICIQ scores. This study found significant improvement in patients' quality of life in both groups of patients. Future research project is aimed to further follow-up these patients to understand their long-term success and complications potentially impacting patients' quality of life.

TABLES & FIGURES

Table 1. Comparison of ICIQ scores, and significant post-operative complications between respondents who underwent colposuspension and urethral bulking agent (UBA).

No.	Item	Colposuspension		Urethral Bulking Agent (UBA)	
1.	Total number of respondents, (n)	n=67		n=83	
2.	Median age at operation, (SD)	48.7 (9.29)		57.6 (14.82)	
3.	Mean duration of follow-up (SD)	17.5 weeks (6.94)		6 weeks	
4.	Median pre-operative ICIQ score (SD)	16.99 (2.70)	p<0.001	16.76 (3.58)	p<0.001
5.	Median post-operative ICIQ score (SD)	6.58 (6.63)		9.39 (6.24)	
6.	Significant post-operative complications	Urinary retention (n=3)		Bladder injury (n=5)	

Figure 1. Distribution of respondents and comparison of treatment outcome between laparoscopic colposuspension and urethral bulking agent (UBA)



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78 - THE CLINICAL EFFICACY OF OUTSIDE-IN TRANSOBTURATOR SLING WITH ADDITIONAL PARAURETHRAL FIXATION – THE PROSPECTIVE LONGITUDINAL STUDY.

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence is a common condition that affect 30-40% of women in their lifetime. Female stress urinary incontinence (SUI significantly affects women's quality of life in almost every aspect, including social activity, physical distress, and sexual life being also an important pecuniary burden not only for patients' but also for society. In consensus statement of the European Urology Association and the European Urogynaecological Association midurethral slings either suprapubic or transobturator can be safely used in the surgical treatment of stress incontinence in female patients however patients need to be aware of the alternative therapy and potential risks of complications of this type of minimally invasive surgery. Numerous questionnaires can be used to assess the impact of urinary incontinence on activities, roles and emotional states of women and its influence on subjective patient's perception of this condition. International Continence Society and International Consultation on Urological Diseases developed an universally applicable questionnaire for application across international populations in clinical practice and research to assess urinary incontinence which can be widely use among female - Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-SF). The aim of this study was to collect clinical long-term data regarding safety and performance of transobturator sling outside- in technique with an additional tape fixation.

MATERIALS AND METHODS

This prospective longitudinal study was conducted on a group of 2086 female patients diagnosed with stress urinary incontinence who were able to complete baseline and follow-up visits. Patients underwent transobturator sling procedure in a single urogynecological center on outpatient's basis from 01. January 2011 to 31. December 2021. All applied surgical procedures and the study protocol were approved by The Institutional Review Board (KE-0254/74). All female participants signed an informed consent to participate in the study. The diagnosis was based on a clinical examination, which included a detailed history, a micturition diary, and a gynecological examination supplemented by a positive cough and Valsalva tests. Exclusion criteria were as follows: previous urogynecologic surgery, detrusor overactivity on urodynamics and advanced urogenital prolapse (pelvic organ prolapse-quantification. All patients had a monofilament tape inserted at the mid-urethra using outside-in technique with 2 absorbable sutures parallel to the urethra in order to fix the tape and prevent its displacement during tape tensioning. These 2 sutures fixed the tape close to the urethral wall and prevent tape displacement during final tape positioning. In fact, final tape adjustment (shown on the attached video file) was performed by pulling its ends so that it lay flat under the urethra without tension. This retrograde movement of the bladder-urethra junction by approx. 1 cm did not induce additional pressure on the urethra due to paraurethral fixation. Moreover, this maneuver increased the probability that sling–pubis gap (SPG) will be in desired values (around 12 mm), which warrants proper function of the tape [1].

RESULTS

Table 1. Demographic data of 2086 study participants.

Year	Number of patients	Age (Mean±SD) (years)	BMI (mean ±SD) (kg/m^2)	ICIQ-SF score before surgery
2011	134	54.25± 4.75	27.32±4.35	14.85± 3.31
2012	124	52.45 ± 10.54	27.02 ± 3.95	14.35 ± 4.08
2013	258	53.74 ± 7.54	28.31 ± 3.15	14.98 ± 3.30
2014	288	51.32 ± 8.24	27.34 ±4.95	14.35 ± 4.08
2015	240	52.73 ± 11.43	26.02 ± 4.75	14.98 ± 3.30
2016	159	54.25 ± 8.74	27.22 ± 2.95	14.35 ± 4.08
2017	206	52.95 ± 9.51	28.02 ± 2.95	13.82 ± 4.26
2018	176	53.24± 6.25	27.32± 3.43	15.11± 3.43
2019	162	52.85 ± 9.44	27.12 ± 3.75	14.15 ± 3.08
2020	171	51.95 ± 11.24	28.02 ± 3.55	14.65 ± 2.08
2021	168	53.35 ± 8.44	27.92 ± 3.65	13.95 ± 4.18

As indicated by ISIQ-SF score before surgery the majority of patients suffered from severe incontinence.
Moreover, the vast majority of patients were parous women (94%). Only 5.2% underwent caesarean section and just 0.8% were nulliparous. The results achieved in ICIQ-SF show relatively high efficacy of TOT surgery even after long-term

observation. We observed a significant improvement in ICIQ –SF in all patient's subgroups. 87% of patients who were operated at least 10 years before assessment reported ICIQ –SF <6. The total drop-out rate was 8.0% for both (telemedicine-based follow-up and office-based follow-up), however for office-based assessment drop-out was 23.77%.

Table 2. Intraoperative and postoperative complications observed in the study group (only office-based follow-up for late compli-cations).

Type of complication	Case/total	Percentage	Remarks
Intraoperative complications			
Excessive bleeding (more than 100 ml)	7/2086	0.3%	None required blood transfusion
Bladder perforation	0/2086	0%	According to our standard operating procedure we do not perform routinely cystoscopy during primary surgery. We did not observed blood in urine after surgery in our study group.
Urethral perforation	1/2086	0.05%	Urethra was sutured and tape was inserted during primary surgery
Vaginal sulcus perforations	81/2086	3.8%	All were managed during primary surgery and tape was reinserted
Late complications (data collected at office-based follow-up)			
De novo urgency	180/1590	11.3%	Defined as urgency occurring after 3 months post-surgery
Voiding difficulties	71/1590	4.4%	Defined as slow urine stream and the feeling of incomplete emptying of the bladder
Tape exposure	12/1590	0.7%	All exposures were managed surgically without any technical problems
Tape perforation	0/1590	0%	Defined as perforation into the bladder or urethra during follow-up
Groin pain	22/1590	1.4%	Defined as pain which required pharmacological treatments

INTERPRETATION OF RESULTS

All patients included into this study were operated on outpatient's basis and in all cases, patients left the clinic with-in few hours after operation. Only 3 patients required catheterization before discharge which in our opinion is a result of additional tape fixation which prevent tape displacement but also warrants the proper tensioning according to tension-free rules. As mentioned in long term follow – up we used telemedicine which was especially useful in Covid pandemic time. In two recently published studies it was clearly shown that telemedicine-based follow-up (TBFU) was equally effective to office-based follow-up (OBFU) among patients after MUS when hospital admissions, emergency department visits, unplanned office visits, unplanned phone calls, or adverse medical events were considered.

CONCLUSIONS

This study confirmed that transobturator outside-in midurethral sling surgery is safe and highly effective surgical treatment for stress urinary incontinence in female patients in a long-term observation.

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79 - COMPARISON OF THE TRANSCUTANEOUS POSTERIOR TIBIAL NERVE STIMULATION AND SOLIFENACIN TREATMENTS' EFFECTS IN WOMEN WITH OVERACTIVE BLADDER

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INTRODUCTION AND AIM OF THE STUDY:

Overactive bladder (OAB) syndrome is a symptom complex characterized by sudden urge to urinate, frequent urination, nocturia, and urgency incontinence without any identifiable organic cause. It is a commonly observed condition that significantly affects the quality of life (1,2).

In the 2023 published guidelines by ICS and EUA for the treatment of OAB, transcutaneous posterior tibial nerve stimulation (T-PTNS) is recommended to be administered following initial treatments. Antimuscarinics play an important role in the maintenance treatment of OAB. In light of the current recommendations in the guidelines, it is important to obtain evidence regarding the comparison of the efficacy of antimuscarinics and T-PTNS treatments to determine which one should be prioritized after the initial treatment. There are limited studies comparing these two methods. (2,3).

MATERIALS AND METHODS

Thirty-four OAB cases between the ages of 18 and 80 were randomized to receive either T-PTNS or oral solifenacin treatment. All cases underwent pre- and post-treatment basic urogynecological evaluation, bladder diary recording, and quality of life questionnaires (OAB-V8, l-QQL, IIQ-7, UDI-6). To stimulate the tibial nerve, T-PTNS group were connected to a low voltage stimulator (TENS URO stim 2 101453 [Ref.: 170–101453] Germany) twice a week for 30 minutes per session, totaling 12 sessions. The drug group received 5 mg solifenacin once a day. Statistical analysis was performed using SPSS 20.0.

RESULTS

Significant improvements were observed in symptom scores and quality of life outcomes in patients following both T-PTNS and solifenacin treatments. However, patients in the T-PTNS group showed significantly lower levels of urgency, nocturia, and incontinence episodes. The quality of life scores, as measured by IIQ-7, OAB-V8, and l-QQL, were also significantly higher in the T-PTNS treatment group compared to the medication group. Both intra-group and inter-group treatment results are shown in Table 1.

Table 1. Comparison of Inter-group Scale Score Changes After 6 Weeks of Treatment

Variable		Oral Solifenacin N=17		TTNS N=17		**Statistical Value**	
		Baseline	Week 6	Baseline	Week 6	F	p
UDI-6		95,09±12,86	50,00±35,75	83,66±14,22	20,26±18,31	0.548	0.464
IIQ-7		91,59±23,33	50,98±37,44	97,75±5,61	14,84±16,05	21.669	**<0.001***
IQOL		27,94±15,56	75,41±31,63	26,41±4,45	95,94±14,88	7.618	**0.009***
OAB-V8		29,64±7,50	18,11±8,29	36,29±3,72	8,88±6,51	31.789	**<0.001***
24-h Frequency	D	9,94±4,64	4,58±0,93	9,05±2,38	3,05±1,08	0.303	0.586
	N	3,90±1,44	2,17±0,95	3,70±1,35	1,24±1,12	6.413	**0.016***
Urgency		9,79±4,70	5,61±4,47	8,87±2,41	2,78±2,27	4.205	**0.048***
IE		8,43±3,86	3,85±2,53	8,94±2,19	1,08±1,63	14.375	**0.001***

Data; mean±standard deviation.
F:Mixed Design Anova Test, *p<0.05;
D: Frequent Urination at Day; N: Nocturia;
IE: Total Daily Incontinence Episodes

INTERPRETATION OF RESULTS

In the literature, improvement in nocturia, urgency, urge incontinence episodes, and pad usage has been reported in patients with OAB treated with TTNS. In a study, TTNS and solifenacin treatments were compared in the OAB group. Both groups showed improvement in bladder diary and quality of life; there was no significant difference between the results. However, it was reported that participants discontinued the use of solifenacin due to dry mouth, while no side effects were observed in the TTNS group. In our study, no side effects were reported by participants in both groups. In studies comparing the efficacy of PTNS and antimuscarinics, PTNS has been found to have a similar effect to antimuscarinics in reducing general symptom scores such as urinary frequency and urgency, while being significantly more effective in reducing urge UI attacks (2,3).

Despite being a non-invasive option, T-PTNS treatment requires the assistance of healthcare personnel for each treatment session, as it involves a testing process and determination of the treatment dose. Therefore, the patient needs to visit the hospital for each session. While antimuscarinics do not have such a disadvantage, the side effects that may lead to treatment discontinuation in the medium and long term can affect sustainability.
The presented study includes short-term results. There are limited studies on long-term outcomes of T-PTNS treatment, and there is not enough information regarding maintenance treatment regimens. Long-term follow-up of the cases included in this study will contribute to the data on T-PTNS treatment.

CONCLUSIONS

T-PTNS treatment can provide symptomatic relief for incontinence, urinary frequency, urgency, and nocturia while avoiding the side effects associated with invasive or pharmacological treatments. There is a need for further research on the long-term maintenance of T-PTNS treatments. Combination therapies that involve lower doses of antimuscarinics and less frequent T-PTNS sessions could be an alternative for sustaining long-term effectiveness. It is anticipated that there will be an increase in new studies focusing on T-PTNS treatments as a non-invasive option.

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80 - LONG TERM EFFICACY, SAFETY AND CONTINUATION RATES OF POSTERIOR TIBIAL NERVE STIMULATION FOR OVERACTIVE BLADDER: 11 YEAR'S EXPERIENCE OF A TERTIARY CENTRE

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INTRODUCTION AND AIM OF THE STUDY

Posterior tibial nerve stimulation (PTNS) is currently offered to patients with refractory overactive bladder (OAB).(1) We aim to evaluate the efficacy, safety and long-term continuation of PTNS in a tertiary hospital over an 11-year period.

MATERIALS AND METHODS

We conducted a retrospective cohort study on all patients who underwent PTNS from 2012 to 2023. Patient records were reviewed to determine demographics and pre intervention urodynamic findings. Bladder diaries and patient reported outcome measures including the King's Health Questionnaire (KHQ) were obtained pre and post treatment. The primary outcomes were change in urinary frequency over 24 hours, maximum functional capacity (MFC), episodes of urgency urinary incontinence (UUI) and patient perception of intensity of urgency scale (PPIUS). Secondary outcomes were quality of life scores, subjective success and adverse events. Statistical analysis was performed using SPSS.

RESULTS

We identified 95 patients, of whom 81 had available medical records. There was a mean age of 59 and a median length of follow up of 26 months. 95% of patients had detrusor overactivity (DO) on urodynamics. All patients had failed on medical therapy, with a median number of different medications trialled being four. 86% of patients proceeded with PTNS due to inefficacy of medical therapy and 14% due to intolerability. 83% of patients completed 12 treatments of PTNS, and over half (54%) of those that did not complete their full course of treatment stated that this was due to inefficacy. 33% of patients underwent PTNS 'top ups' as needed, after completing their course of initial treatment, with the median number of top ups being 3. Only 1 patient reported an adverse effect of musculoskeletal leg pain.

54 patients had completed bladder diaries and KHQs pre and post treatment. 28% of patients reported a subjective improvement of their symptoms by 50% or more. A 'responder' to treatment was defined as a patient with reduction in their urinary frequency over 24 hours by 50% or more, and 5 patients who underwent PTNS treatment were deemed responders. There was an average reduction in daytime frequency by 0.6 episodes (p=0.033), an increase in MFC by 13mls (0.927), a reduction in UUI episodes each day by 0.7 (p=0.008) and a reduction in average PPIUS by 0.4 (0.024). The mean reduction in total KHQ scores pre and post treatment was by 5 points (p=0.03). The minimal clinically important difference (MCID) was seen most frequently (24%) in the incontinence severity domain of the KHQ.

22% of patients were referred for alternative management options for refractory OAB, including SNS and intravesical Botulinum Toxin. 22% of patients are continuing with ongoing PTNS.

INTERPRETATION OF RESULTS

Following PTNS treatment, patients had a significant reduction in urgency scores, UUI episodes, daytime urinary frequency and total KHQ scores. There was no significant difference in MFC or nocturia.

CONCLUSIONS

PTNS remains a safe treatment option for patients with refractory OAB with evidence of both subjective and objective improvement to most symptoms and quality of life scores. The majority of our patients completed a 12-week cycle but only 1 in 3 chose to have further PTNS 'top ups' and only 1 in 5 are continuing with PTNS for long term management of their OAB.

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81 - FLAT MAGNETIC STIMULATION FOR URGE URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Strategies of overactive bladder syndrome (OAB) management involve - among the others - strengthening the bladder outlet to suppress urgency, and neuromodulation of sacral roots. Consequently, magnetic stimulation has a strong rationale in treating OAB. This technology involves an extracorporeal device that is able to generate a specific electromagnetic field that interacts with pelvic floor neuromuscular tissue. The resulting electrical activity induces controlled depolarization of the nerves, resulting in pelvic muscle contraction and sacral S2-S4 roots neuromodulation. Recently, magnetic stimulation technology witnessed relevant advancements, which include Flat Magnetic Stimulation. This involves homogeneous rather than curved electromagnetic fields, which are able to optimize the effect on the entire pelvic area [1, 2]. However, the benefits of this new technology on OAB syndrome are poorly known.
Consequently, the aim of our study is to analyze the outcomes and quality of life impact of Flat Magnetic stimulation in women suffering from overactive bladder syndrome associated with urinary incontinence.

MATERIALS AND METHODS

This prospective study included patients with overactive bladder and urge urinary incontinence and no ongoing OAB treatments. At the baseline (T0), the International Consultation on Incontinence Questionnaire-Short Form(ICIQ-SF), the Incontinence Impact Questionnaire (IIQ-7), and the Female Sexual Function Index (FSFI-19) questionnaire were collected. Patients underwent eight sessions of 25 minutes each, twice a week for one month, of Flat Magnetic Stimulation treatment with Dr. Arnold (DEKA, Calenzano, Italy - Figure 1). At the end of the treatment (T1), women repeated the ICIQ-SF, IIQ-7, and FSFI-19 questionnaires, and the scores were compared to the baseline (T0) to determine the impact on quality of life. The cure rate was evaluated through the Patient Global Impression of Improvement (PGI-I) questionnaire.

RESULTS

Our study enrolled a total of 57 consecutive patients. Most women had at least one second- or third-line treatment before FMS, while the remaining naive patients had contraindications to pharmacological treatments. No women reported adverse effects during the treatment.
Outcome measures of subjective and quality-of-life questionnaires at baseline (T0), and at the end of treatment (T1) are summarized in Table 1. After the treatment, we observed a decrease in the IIQ-7 ($p<0.001$) and ICIQ-SF scores ($p<0.001$), and an improvement in sexual function ($p<0.001$) evaluated with FSFI-19. According to PGI-I scores 42 (73.7%) women referred to some kind of improvement, scoring ≤ 3 points. Specifically, 8.7% of patients considered themselves very much improved, 29.8% much improved, 35.1% minimally improved, and 26.3% found no changes (Figure 1).

INTERPRETATION OF RESULTS

FMS was effective in treating OAB symptoms, without any adverse effects. The mechanism is supposed to be related to the strengthening of the bladder outlet muscles and consequent urgency suppression.This makes FMS a promising device to treat urge urinary incontinence that can eventually be used in combination with other physical or pharmacological methods

CONCLUSIONS

New Flat Magnetic Stimulation represents a promising non-pharmacological option for the treatment of naive and refractory OAB.

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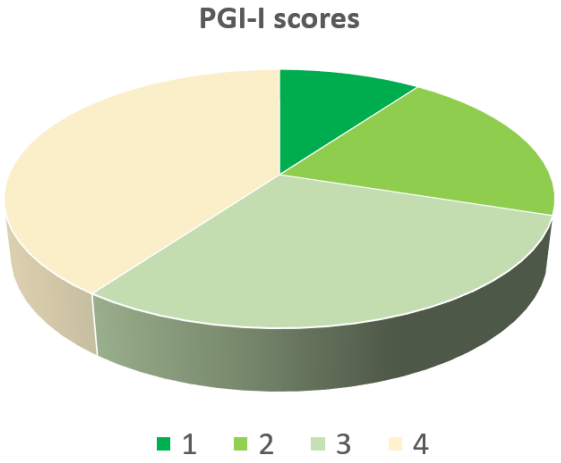
Table 1.
Outcome measures of subjective and quality-of-life questionnaires at baseline (T0) and at the end of treatment (T1). Data are reported as median and interquartile range. ICIQ-SF: International Consultation on Incontinence Questionnaire-Short Form questionnaire; FSFI-19: Female Sexual Function Index questionnaire; IIQ-7: Incontinence Impact Questionnaire; PGI-I: Patient Global Impression of Improvement questionnaire. n/A: not applicable.

Questionnaire	Baseline (T0)	End of treatment (T1)	p-value
IIQ-7	33 [27.5-55.0]	27.5 [11.0-44.0]	<0.001
ICIQ-SF	13 [8-16]	8 [6-13]	<0.001
FSFI-19	1.2 [1.2-18.5]	2.7 [1.2-21.4]	<0.001
PGI-I	n/A	3[2-4]	n/A

Figure 1
Dr. Arnold (DEKA, Calenzano, Italy) Flat Magnetic Stimulation piece of equipment

Figure 2
Patient's Global Impression of Improvement (PGI-I) scores. 1, very much improved; 2, much improved; 3, minimally improved; 4, no change; 5, minimally worse; 6, much worse; or 7, very much worse



82 - CORRELATION BETWEEN THE FEMALE PELVIC FLOOR BIOMECHANICAL PARAMETERS AND THE SEVERITY OF STRESS URINARY INCONTINENCE

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INTRODUCTION AND AIM OF THE STUDY

Stress urinary incontinence (SUI) is a common condition that requires proper evaluation to select a personalized therapy. Vaginal Tactile Imaging (VTI) is a novel method to assess the biomechanical parameters of the pelvic floor.

MATERIALS AND METHODS

Women with SUI were enrolled in this cross-sectional study. Participants completed the Medical, Epidemiologic, and Social Aspects of Aging (MESA) questionnaire and the Patient Global Impression of Severity Question (PGI-S) and underwent a VTI examination. Based on the MESA and PGI-S questionnaires, participants were divided into mild, moderate, and severe SUI groups. Fifty-two biomechanical parameters of the pelvic floor were measured by VTI and compared between the groups (mild vs. moderate and severe). SUI Score and Index were calculated from the MESA questionnaire. Pearson correlation was used to determine the strength of association between selected VTI parameters and the MESA SUI Index and MESA SUI Score.

RESULTS

Thirty-one women were enrolled into the study. Significant differences were observed in the VTI parameters 16, 22, 23, 24, 38, and 39 when the difference between mild and severe subgroups of SUI based on the PGI-S score was examined. Parameter 16 refers to the maximum gradient at the perineal body, parameter 22-24 refers to the pressure response of the tissues behind the vaginal walls, and parameter 38 and 39 refers the maximum pressure change and value on the right side at voluntary muscle contraction. VTI parameter 49, describing the displacement of the maximum pressure peak in the anterior compartment, showed a significant difference between the mild SUI and the moderate-severe SUI according to the MESA SUI score (mean ± SD 14.06±5.16 vs. 7.54±7.46, P=0.04). The MESA SUI Index and SUI Score displayed a positive correlation concerning VTI parameters 4 (the maximum value of the posterior gradient) and 27 (the displacement of the maximum pressure peak in the anterior compartment) (VTI4 vs. MESA SUI Index r=0.373, P=0.039; VTI4 vs. MESA SUI Score r=0.376, P=0.037; VTI27 vs. MESA SUI Index r=0.366, P=0.043; VTI27 vs. MESA SUI Score r=0.363, P=0.044).

INTERPRETATION OF RESULTS

Our cross-sectional study found significant differences between SUI severity subgroups divided by PGI-S and MESA questionnaire and selected female pelvic floor biomechanical parameters measured by VTI. The pathophysiology of SUI is not entirely understood, and our results suggest that VTI may aid in evaluating women with SUI. In addition, VTI technology may help to identify pelvic floor biomechanical weaknesses not identifiable by other methodologies or by urodynamic testing. VTI could further improve the ability to provide appropriately personalized care for SUI patients, thus increasing the chances of a cure for this common disease.

CONCLUSIONS

Female pelvic floor biomechanical parameters, measured by VTI, significantly correlate with the severity of stress urinary incontinence.

83 - RESULTS OF A NOVEL NATURAL THERAPY FOR WOMAN OVERACTIVE BLADDER

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INTRODUCTION AND AIM OF THE STUDY

The therapeutic approach to overactive bladder and female urinary incontinence still presents limitations and challenges, which often do not allow effective treatment. Urinary urgency (UI) is a major female problem, which affects a large number of women, especially after the menopause, but can also occur earlier. The traditional therapeutic approach often do not allow effective treatment. In this context, Dropsordry® emerges, a mixture of specific active ingredients that have been specifically designed to address urinary incontinence and promote the well-being of the female urinary tract. This blend consists mainly of soy isoflavones, particularly genistein, and genestine and pumpkin seed extract, known as cucurbita pepo.

MATERIALS AND METHODS

84 women (mean 58.9 years) suffering urgency with or without incontinence were enrolled in multicentric, non randomized study for 8 weeks.

Inclusion criteria

- age 25-80 yrs
- symptoms for more than 3 mts
- Idiopathic OAB: freq > 7, nict> 1,
- Urgency with or without incontinence

Exclusion criteria

- Neuropaties, urinary tract abn, urinary or genital neoplasms
- Recurrent UTI
- DI at CMG (optional)
- PMR > 100 ml
- Allergies to products
- Drugs competition

Preliminary examinations

- Urine an. + bacterial urine analysis
- Uroflow with P.M.R. evaluation
- Micturiction diary for 3 days

Protocol

- 2 cps /per day (1000 mg Dropsordry®) x 4 wks (T1) + 1 cps/per day (500 mg Dropsordry®) x 4 wks (T2)
- Subjective evaluation (UI VAS)
- Objective evaluation; micturiction diary - pads consumption
- Side effects evaluation

RESULTS

	T0	**T1: 2 mth**
N° pads/day	2.1	0.6
N°pads/night	1.2	0.48
Inc VAS (0-10)	6.9	4.4

Table 1. Clinical data part1

DRY/IMPROVED/ UNCHANGED	**50/23/11**
Mild side effects	13 (constipation)

Table 2. Clinical data part 2

INTERPRETATION OF RESULTS

After eight weeks of treatment, there were positive results similar to anti-muscarinic drugs. A very important data point was the reduction in the number of pads per day and night. All women presented incontinence significant VAS

improvement in 78.3 % of cases. In the 84 female cases result: 50 cases dry, 23 cases improved and 11 cases unchanged. In a few cases constipation, mild side effects, were reported and no withdrawal from the protocol.

CONCLUSIONS

Hypoestrogenism in menopause is an aetiological factor in detrusor or urethral sphincter dysfunction [1]. In fact, the role of oestrogen in modulating bladder activity and ensuring proper bladder function through a positive interaction with sensory and motor end receptors is well known [2].

Dropsordry® acts both as a neuromodulator of the bladder muscarinic receptors through interaction with muscarinic receptors and by maintaining high testosterone values in the urogenital system through interaction with the aromatase enzyme [3]. In addition, Dropsordry® has a reparative action and promotes tissue elasticity.

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84 – BARRIERS TO ADHERENCE WITH THE RECOMMENDATIONS FOLLOWING OBSTETRIC ANAL SPHINCTER INJURIES IN AN ETHNICALLY DIVERSE COMMUNITY - AWARENESS IS KEY.

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INTRODUCTION AND AIM OF THE STUDY

Obstetric anal sphincter injuries (OASIS) may result in severe symptoms including pain and anal incontinence. Many women do not seek treatment to address these symptoms, possibly due to embarrassment as well as lack of knowledge regarding the postpartum management, which limit the compliance with the follow up and treatment. The aim of our study was to assess patient compliance with follow-up and treatment recommendations following OASIS in our unique etnically diverse parturient population, and to identify possible barriers that may limit compliance.

MATERIALS AND METHODS

A retrospective cohort study was conducted among women who gave birth between the years 2016-2019 and were diagnosed with OASIS. The demographic and basic health information was extracted from the patients' electronic medical records. A questionnaire addressing additional demographic and health awareness data including patient education, employment status, transportation availability and awareness of OASIS complications, was completed during a telephone interview. The study population was divided into three groups: Women who did not comply with any of the recommendations (group 1), women with partial compliance (group 2) and women with full compliance with all recommendations (group 3).

RESULTS

A total of 190 patients met the inclusion criteria, of these 74 (38.9%) did not attend any follow-up (group 1); 86 patients (45.3%) had partial compliance (group 2), and 30 (15.8%) were fully compliant (group 3).

Women in group 3 were more likely to be of Jewish than of Bedouin-Arab ethnicity, more likely to be with a higher than high-school education, and had the OASIS during the years 2018-2019. These women also demonstrated significantly higher awareness of OASIS complications. A multivariate model showed a significant association between compliance to the recommendations and awareness of OASIS complications (adjusted OR:3.91; 95%CI:2.02-7.58, p<0.001), level of education (adjusted OR:2.37; 95%CI:1.01-5.54, p=0.046) and OASIS birth year (adjusted OR:1.71, 95%CI:1.08-2.70, p=0.020), while adjusting for ethnicity and age.

The same multivariable model was tested separately in the two ethnicities (after the exclusion of the Ethnicity variable). These models revealed that only awareness was associated with compliance (AOR=0.11; 95%CI 0.03-0.36, p<0.001, and AOR=0.39; 95%CI 0.18-0.87, p=0.02, among Jewish and Bedouin-Arab women, respectively). Educational status, age, year of delivery and gravidity were not associated with low compliance among either Jewish nor Bedouin-Arab women. The analysis of the questionnaire is showed in (**figure I**), the main causes for the low or lack of compliance among Bedouin-Arab women was their unawareness of the importance of the visit/test/treatment (47.2%), followed by misunderstanding regarding the follow-up appointment (36.1%) Among Jewish women, the main barriers to compliance were misunderstanding regarding the follow-up appointment (56.3%) followed by unawareness of the importance of the visit/test/treatment (25.0%).

INTERPRETATION OF RESULTS

Our main finding was the association between awareness to OASIS complications and compliance with follow up and treatment recommendations. These findings align with the studies by Radzimińska et al. and Wieslander et al. (1, 2) that focused on barriers to care for women with pelvic organ prolapse, as well as with literature regarding patients' compliance with medical recommendations in conditions such as diabetes and hypertension (3).

CONCLUSIONS

An intervention targeted to raising awareness to OASIS complications, and the importance of treatment may lead to higher postpartum compliance and better short- and long-term outcomes for women with OASIS, and should be further studied.

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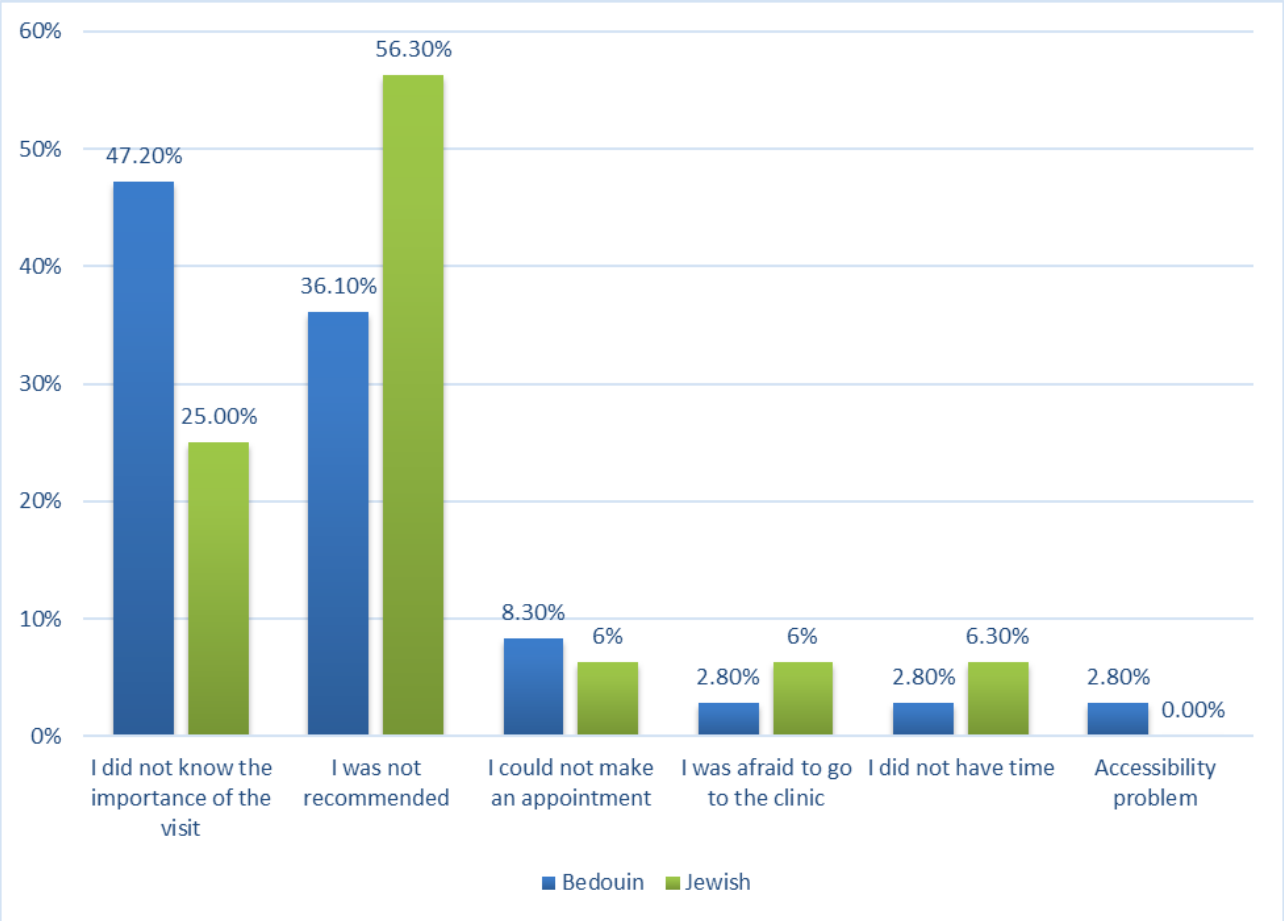
Figure I: Questionnaire responses ~~– perceptions-~~ perceptions of barriers to compliance



85 - HIGH UTEROSACRAL LIGAMENTS SUSPENSION BY TRANSVAGINAL NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY (VNOTES): A PILOT STUDY ON FEASIBILITY, SAFETY AND SHORT-TERM SURGICAL OUTCOMES

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INTRODUCTION AND AIM OF THE STUDY

Transvaginal high uterosacral ligaments suspension (HUSLS) is highly effective in restoring apical defect, but is associated with an unacceptable risk of ureteral kinking or injury due to the limited visualization of the surgical field. Transvaginal natural orifice endoscopic surgery (vNOTES) overcomes this limit by providing a transvaginal laparoscopic vision of the pelvis, hence possibly allowing a safe and effective mini-invasive HUSLS. The aim of this pilot study was to evaluate the feasibility, safety, and short-term surgical outcomes of vNOTES HUSLS in two Italian institutions.

MATERIALS AND METHODS

We performed a prospective analysis of 25 patients with symptomatic pelvic organ prolapse, enrolled between November 2021 through March 2023. All women underwent vNOTES hysterectomy and adnexal surgery associated with HUSLS. During HUSLS the ureters were systematically isolated by opening the pelvic peritoneum between the USL and the ureter so to avoid kinking during the suspension. The mean age of the patients was 65.7 years. The mean BMI was 25.0 kg/m^2. 40% of patients had an isolated apical defect, 48% of patients had an apical and anterior defect and 2 patients (8%) had also cervical elongation. We collected perioperative and postoperative data. During the follow-up we collected data about pain and patients' satisfaction.

RESULTS

The mean operative time was 101.7±26.8 min. In 13 (52%) patients an anterior colporrhaphy was also performed. In one case (4%) a conversion to laparoscopy was necessary due to unexpected severe pelvic adhesions. We did not observe intra-operative complications, particularly bladder, rectal or ureteral lesions. The VAS pain score was 2.8 on the day of surgery, 0.75 at 7 days and 0.2 at 60 days. The PGI-I score was 2.2 at 60 days. At 60-days, no patient had a POP recurrence.

CONCLUSIONS

vNOTES HUSLS is feasible and allows achieving an optimal restoration of advanced apical defects with a high patients' satisfaction. This pilot study suggests that vNOTES HUSLS as it allows optimal ureteral visualization and separation from the USL, leading to absence of ureteral kinckings/injuries in this first case series.

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86 - LIGHT EMITTING DIODE (LED) THERAPY TO AFFECT SYSTEMIC INFLAMMATION AND GENITAL ATROPHY IN POSTMENOPAUSE: PRELIMINARY STUDY

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INTRODUCTION AND AIM OF THE STUDY

In geriatric urogynecologic fields, inflammation and genital atrophy are a common health problem in postmenopausal women. It can cause many symptoms as itching, dryness, pain, obesity, urinary symptoms etc from body skin to genitalia. It makes to decrease the quality of life and to affect a negative effect on gynecologic symptoms and sexual function . This study aims to evaluate the change of inflammation and collagen change using Light emitting diode (LED) therapy in mouses as a preclinical study.

MATERIALS AND METHODS

We performed a prospective evaluation of 20 postmenopausal mouses (control group; n=10, LED group; n=10) which were undergone bilateral ovariectomy from July 2021 to September 2021. We used to the mixed wavelengths of three types as the 460-nm LED (blue), the 592-nm LED (amber), the 630-nm LED (red). Each mouse got LED device (Bellalux®, Linkoptics, Gwangu, Korea) on its buttock for 20 minutes for 2weeks. We applied candida albicans (ATCC, 11006, University Boulevard Manassas, VA, 20110, USA) to mice's buttock and the blood sample in heart of mouse and analyzed to cell blood count (CBC), C-reactive protein (CRP) analysis. Another 18 postmenopausal mouses buttock for 20 minutes for 4 weeks . We got the 1*1cm tissue on both buttock and analyzed to immunohistochemistry analysis using Masson trichrome (MT), hematoxylin and eosin (H&E), smooth muscle antibody (SMA) and vimentin stain. Our study was approved by the experimental animal institutional review board under registration number CKU-02-2021-004. Data were analyzed using SPSS software (version 22; IBM Corp., Armonk, NY, USA). Statistical significance was considered as $P< 0.05$). The paired t-test analysis was analyzed to compare between no LED group and LED therapy group for 2 weeks after LED treatment.

RESULTS

We compared to the result of blood test between no LED group (n=10) and LED therapy group (n=10) for 2 weeks after LED treatment. On blood analysis, mean whole blood cell (WBC) count of control group was $4.37 \pm 1.03 *10^3$ cells/μL to be decreased to $3.12 \pm 0.76 *10^3$ cells/μL of the LED therapy group ($p=0.007$). The lymphocyte count was changed from $3.90 \pm 0.90*10^3$ cells/μL to $2.73 \pm 0.68*10^3$ cells/μL after LED therapy ($p=0.004$). There is no statistically significant change in CRP of both groups.

We compared to the collagen density and the fibroblast count between no LED group (n=9) and LED therapy group (n=9) for 4 weeks after LED treatment. On MT stain, mean scale of no therapy group was 127.28 ± 5.03 to be increased to 102.06 ± 6.94 of the LED therapy group ($p<0.05$). The scale range on MT stain is from 0 to 250; 0 scale means the thickest density of collagen. We check the fibroblast count by eyeball evaluation in each section. The fibroblast count was increased from 51.19 ± 14.71 (control group) to 80.22 ± 31.28 (LED therapy group) after treatment ($p<0.05$).

INTERPRETATION OF RESULTS

WBC count and lymphocyte are marker as inflammation. This study proved to improve the WBC count and lypmphocyte in blood after LED therapy. And collagen denstity of LED thearpy group was more thicker than control group. The fibroblast count was increaesed to buttock after LED treatment . LED was effective cure to systemic inflammation and collgen defect in postmenopause.

CONCLUSIONS

LED therapy improved to systemic inflammation in mouse model. It is expected that postmenopausal women would opt for adequate treatment option to restore in gynecologic symptoms related to inflammation. And LED was promoted collagen regeneration in mouse model. Postmenopausal atrophy is caused by collagen loss. It is expected that genital atrophy would opt for adequate treatment to restore in urogynecologic function and anatomical structure.

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87 - THE COMPARISON OF THE INFLUENCE ON FEMALE'S PELVIC FLOOR OF TWO TYPES OF PESSARIES: RING AND CUBE - ULTRASOUND EVALUATION

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INTRODUCTION

There are different types of pessaries which can be used to treat pelvic organ prolapse (POP). The most often used is ring pessary. Cube pessary in some centers is used as number 1 or 2, there are data suggesting that daily used cube pessary is safe and well tolerated non-operative POP treatment, used by most of the patients even after 5 years. No unified recommendations concerning pessaries exist, mainly because of scares knowledge about them.
Pelvic floor ultrasound allows to study and quantify different aspects of pelvic floor anatomy and function. Some aspects of successful and failed fitting of the ring pessary were evaluated using translabial ultrasound (TLUS).

HYPOTHESIS/AIMS OF THE STUDY

The main aim of the study was the comparison of the influence of two types of pessaries: cube and ring on female's pelvic floor. The additional aim was to find out confounders that may modify the influence of ring and cube on pelvic floor, especially levator muscle avulsion and hiatal ballooning.

STUDY DESIGN, MATERIALS AND METHODS

This was a prospective study of female patients with symptomatic significant pelvic organ prolapse who attended outpatient urogynecologic clinic and agreed to participate in the study. We evaluated 301 women. The mean age was 57 years (26-84), BMI - 26 kg/m2 (17-40).
All patients had standard evaluation in the clinic: interview, clinical examination including POP-Q system, 2D/4D TLUS before and after inserting pessaries: ring and cube. Two experienced specialists, according to our standard clinical practice, fitted cube and ring pessaries using set of pessaries. One experienced specialist performed 2D and 4D TLUS in patient with empty bladder in supine position on gynecological chair using GE Voluson 730 Pro and GE Voluson 730 Expert (GE Medical Systems, Zipf, Austria), with abdominal 4-8-MHz 4D curved array transducer. Bladder neck (BN) position at rest, during pelvic floor muscle contraction (PFMC) and Valsalva maneuver (VAL) was evaluated during 2D TLUS. Hiatal dimensions were measured at 4D TLUS in the plane of minimal hiatal dimensions at rest, during PFMC and VAL as previously described. Levator integrity was examined during 4D TLUS tomographic imaging in the axial plane during PFMC as previously described.

For evaluating BN mobility we used parameters: H, D and Vector, for example, to evaluate mobility during PFMC: HMC = Hk-Hr, DMC = Dr-Dk, VectorK= sqrt (HMC^2 + DMC^2).
For evaluating changes in hiatal dimensions we used parameters: area - A, circumference - C, longitudinal diameter - L, transverse diameter - T, for example, to evaluate changes during PFMC: AMC = Ar-Ak, CMC = Cr-Ck, LMC = Lr-Lk, TMC = Tr-Tk.

RESULTS

Below we present the comparison between evaluated ultrasound parameters.

1. No pessary vs. cube pessary

A. BN paramaters:
- Hk-Hr: 5.98cm vs. 3.55cm, p<0.004,
- Hr-Hv: 6.52cm vs. 5.88cm, p<0.000000.

B. Hiatal parameters:
- Ar-Ak: 6.97cm2 vs. 9.88cm2, NS,
- Av-Ar: 8.2 cm2 vs. 10.17cm2, p<0.000

2. No pessary vs. ring pessary

A. BN paramaters:
- Hk-Hr: 5.98cm vs. 6.24cm, NS,
- Hr-Hv: 6.52cm vs. 7.5cm, NS.

B. Hiatal parameters:

- Ar-Ak: 6.97cm2 vs. 11.29cm2, NS,
- Av-Ar: 8.2 cm2 vs. 12.51cm2, NS.

3. Cube pessary vs. ring pessary

A. BN paramaters:

- Hk-Hr: 3.55cm vs. 6.24cm, NS, but p=0.093
- Hr-Hv: 5.88cm vs. 7.5cm, p<0.000000.

B. Hiatal parameters:

- Ar-Ak: 9.88cm2 vs. 11.29cm2, NS,
- Av-Ar: 10.17 cm2 vs. 12.51cm2, p<0.035.

CONCLUDING MESSAGE

Surprisingly, cube pessary had negative influence on bladder neck mobility during PFMC in comparison to no pessary (statistically significant) and to ring pessary (NS). There were no differences in BN mobility during PFMC with ring inserted compared to PFMC without pessary. However, there were no differences in hiatal area changes during PFMC between no pessary, ring and cube.

During Valsalva maneuver cube pessary confirmed protective effectiveness on BN mobility and hiatal dimensions during Valsalva maneuver compared to ring pessary and no pessary, while we did not show protective effectiveness of ring pessary to pelvic floor.

The results of our study suggest that there are big differences concerning influence on pelvic floor between two evaluated types of pessaries: ring and cube. These differences may have important influence on efficacy and patient's satisfaction and may be a part of the answer to some questions concerning successful and successful fitting, as well as discontinuing of the treatment.

88 - DETERMINANTS OF DISSATISFACTION AFTER LAPAROSCOPIC SACROCOLPOPEXY AND/OR SACROHYSTEROPEXY: A LARGE RETROSPECTIVE COHORT STUDY

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common disease of the aging woman which burden is continuously increasing: the demand of care for symptomatic POP is ongoingly rising, and awareness of both women and healthcare providers is improving. Patients with POP are nowadays oriented to one of the two major approaches: the abdominal approach with laparoscopic sacrohysteropexy/sacrocolpopexy (LSH/LSC) using mesh or the vaginal approach with hysterectomy and vaginal vault suspension (1). LSH/LSC is now considered as the most effective surgery to treat POP, particularly when patients request a uterine-preserving surgery. It has several potential benefits when compared to the vaginal approach, particularly the improvement in urinary symptoms, preservation of sexual function and childbearing potential, and support of both the anterior and posterior compartments (2). With the increasing prevalence of uterine prolapse nowadays, patients and urogynecologists are leaning towards LSH/LSC in order to obtain sustainable results that would improve patients' satisfaction. Anatomical outcomes and subjective recurrence rates of LSH/LSC have been extensively studied, but few papers have looked into the improvement in quality of life on the long run. Since the ultimate objective of POP surgery is to relieve patients of their bothering symptoms and improve their quality of life, we decided to study the factors that might be negatively associated with patient's satisfaction and/or subjective cure after LSH/LSC.

MATERIALS AND METHODS

355 operated patients at Geoffroy Saint-Hilaire hospital in Paris were reviewed retrospectively. LSH/LSC were performed between July 2005 and September 2022, and all patients were followed-up over a long period of time (with a minimum of 3 months) (cf. Figure 1). Several variables were collected, among them factors that might impact the surgery's success and/or patients' satisfaction, such as the history of a prior surgery for pelvic organ prolapse (POP), accompanying pelvic floor dysfunction symptoms (urinary and/or digestive), the occurrence of perioperative and/or postoperative complications, the use of posterior mesh with or without anterior rectopexy, as well as the emergence of new onset symptoms over time (constipation, pelvic pain, lower urinary tract symptoms). An anterior and posterior mesh hysteropexy/colpopexy was performed when the posterior compartment was affected on physical examination (in addition to the anterior or apical compartment), while a ventral rectopexy was performed in cases of symptomatic rectal prolapse. Patients' satisfaction was assessed using the bother Visual Analog Scale (VAS) obtained postoperatively (at 1 month interval): patients were asked to rate their bother related to pelvic floor dysfunction from 0 to 10. We then looked for parameters that might be correlated positively or negatively with variations of this score.

RESULTS

95% of patients had a stage 3 or 4 prolapse according to the POP-Q classification. 6.9% of patients had perioperative complications (bleeding, bladder injury, laparo-conversion, ureteral injury, others). After surgery, 8,8% of patients reported symptom recurrence and 26.1% presented new onset symptoms, while only 0.7% suffered from mesh erosion. 12.7% of patients reported a bother VAS of 3 and above at 1 month of surgery, indicating a dissatisfaction (cf. Figure 2). When looking into correlations, patients whose POP was associated with anal incontinence and/or rectal prolapse had higher scores on the bother VAS postoperatively (correlation coefficients of 0.175 and 0.163, respectively, $p < 0.05$). Yet, the use of a posterior mesh correlated with a better satisfaction overall ($r = -0.178$, $p = 0.001$), while the performance of anterior rectopexy was associated with a bothering sensation postoperatively ($r = 0.232$, $p < 0.001$). In parallel, patients suffering from prolapse accompanied by OAB or those with previous POP surgery tended to have a higher risk of subjective recurrence. Obesity, old age and the occurrence of complications did not affect patient satisfaction significantly, while a very weak correlation with new onset symptoms was noted.

INTERPRETATION OF RESULTS

Patients were overall satisfied as reflected by the bother VAS levels that returned below 4 in the vast majority of patients (95.3%) during medium to long-term follow-up. Patient satisfaction was assessed using the bother VAS level, which has been previously validated among other tools for the assessment of the global response to surgery and degree of achievement of patient goals (3). The parameters that we studied had mild but significant correlation with patients' satisfaction scores and the feeling of subjective recurrence. According to these relationships, posterior mesh repair appears to improve satisfaction when coupled with anterior mesh repair. These results bring previous reports into question, particularly those stating that posterior prolapse is less likely to be symptomatic and can be considered normal. The long-term follow-up that we performed proved that patients will have less bothersome sensations when this compartment is treated as well. Also, patients presenting with symptoms of anal incontinence and/or rectal prolapse have higher risks of

dissatisfaction and must be treated cautiously and informed about this risk. This relationship is not surprising since rectal prolapse is known to be a bothersome and debilitating condition whose repair is still non standardised.

CONCLUSIONS

The use of a posterior mesh appears to improve patient satisfaction. Patients with symptomatic rectal prolapse are at higher risk of dissatisfaction after LSC/LSH, and the performance of anterior rectopexy does not appear to improve patient satisfaction in this context. On the other hand, new onset symptoms related to LSC/LSH appear to be less distressing than previously thought.

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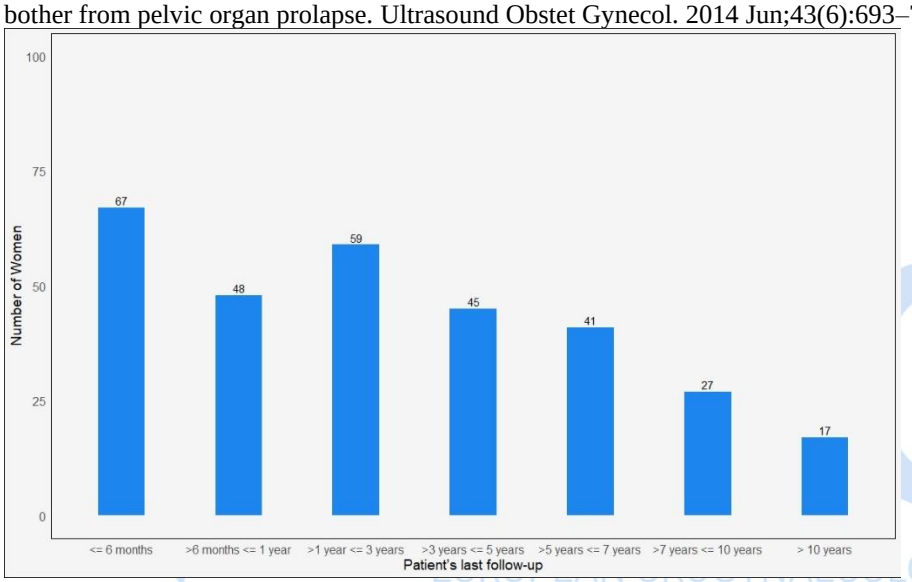

Figure 1. Length of patient follow-up

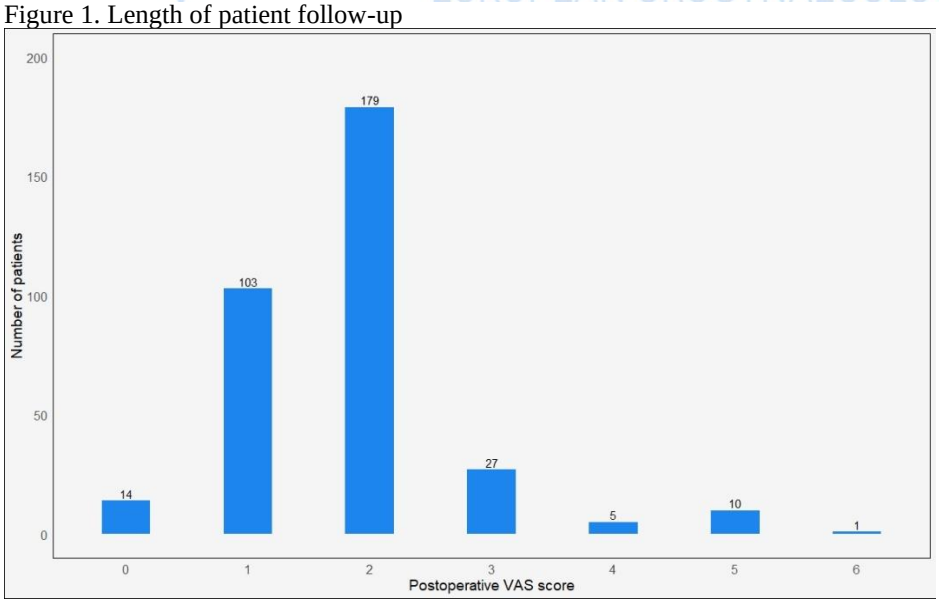

Figure 2. Distribution of VAS among patients

89 - THE IMPACT OF VAGINAL HYSTEROPEXY WITH ANTERIOR NATIVE TISSUE REPAIR ON OVERACTIVE BLADDER AND ON URODYNAMIC DIAGNOSIS

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INTRODUCTION

Many different techniques of native tissue vaginal anterior repair with concomitant hysteropexy were described in women with pelvic organ prolapse. The functional outcomes of these surgical procedures, in particular in terms of Overactive Bladder (OAB) are not clear. The first aim of our study was to evaluate, for the first time, the impact of this type of surgery on overactive bladder and detrusor overactivity, based on a urodynamic evaluation.

METHODS

In this analysis, we included women with POP stage 2-3 of anterior vaginal compartment and a second stage of uterine prolapse, who underwent vaginal POP surgery repair with anterior repair and hysteropexy from October 2022 to February 2023. Before the surgery, the preoperative evaluation included the collection of history, urinary symptoms, and urodynamic evaluation. In all cases, a single highly trained surgeon performed the surgical procedure of native tissue vaginal anterior repair and hysteropexy. At 4-th month follow-up, we repeat the evaluation of symptoms and the urodynamic assessment.

RESULTS

Twenty women were included in the analysis. A total of 12 patients were symptomatic for overactive bladder before the surgery. After the surgery, we observed the resolution in 75% of these patients; the other 25% of women reported unchanged symptoms. No patient complained of a worsening of the symptoms. Eight patients were asymptomatic for OAB before the surgery: 75% of this group remained asymptomatic after the surgery, the other 25% become symptomatic for overactive bladder but urodynamic study did not demonstrate detrusor overactivity.
Ten patients were asymptomatic for stress urinary incontinence; this finding did not change after surgery.
The resolution or improvement of urinary stress symptoms was observed in 20% of the patients; at the contrary, two patients reported the de novo onset of symptoms of stress urinary incontinence even if the urodynamic study not confirmed the diagnosis.
The resolution of the prolapse symptoms was observed in 95% of the patients. Only one woman remained symptomatic for prolapse, but due to a not repaired posterior vaginal prolapse.

CONCLUSIONS

The treatment of POP with native tissue vaginal anterior repair and concomitant hysteropexy seems to be able to improve OAB symptoms and IUS symptoms. The urodynamic postoperative study confirmed the improvement of the symptoms. This surgical intervention can be considered as effective and safe procedure

90 - TRANSVAGINAL VESICOLITHOTOMY FOR AN 8 CM BLADDER CALCULUS CAUSING INCARCERATED PROCIDENTIA.

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INTRODUCTION AND AIM OF THE STUDY

Female urinary stone formation is unusual. The primary predisposing factors for calculus formation in the non-neurogenic bladder are outlet obstruction and foreign materials. Pelvic organ prolapse (POP) is the leading cause of bladder outlet obstruction in women. (1) We present such a case below. Our aim is to describe a rare case of chronic multi-compartment genital prolapse resulting in bladder outlet blockage and the subsequent formation a large bladder stone; the stone caused an incarcerated procidentia that was treated surgically utilizing a comprehensive transvaginal technique.

MATERIALS AND METHODS

Case: A 75 years old Caucasian lady (para:3, vaginal deliveries: 3, BMI: 31) presented to our outpatient clinic with irreducible prolapse restricting daily activities, pain, voiding difficulties, frequency, urgency, and urge urinary incontinence. She reported that she first observed the bulge seven years ago; however, the burning sensation and pelvic discomfort had progressively worsened over the past 2 years, to the point where even sitting was bothersome. She had been treated for recurrent urinary tract infections multiple times. Her comorbid conditions included: hypertension, type II diabetes, and coronary artery disease.

Examination: The physical examination showed incarcerated uterine and vaginal procidentia with mucosal ulcerations (POP-Q: Ba=11, C=+13, Bp=+11). Stress cough test was negative. Ultrasound examination and CT reveal a small uterus 4x2.5 cm, a long cervix 6 cm length, post-void residual volume (PVR): 180ml, and a bladder calculus with 8cm maximum diameter.

RESULTS

Interventions: After extensive counseling on treatment options, the patient chose the less invasive surgical treatment. After discussing the case in a multidisciplinary meeting, it was decided a completely transvaginal surgical approach. Under spinal anesthesia, the patient was placed in lithotomy position, the prolapse was still irreducible. A vaginal hysterectomy with bilateral oophorectomy was performed first, revealing a small uterus. After that, a transvaginal transperitoneal cystolithotomy was performed: Firstly, we reversed the bladder peritoneum, after that we performed a transverse incision on the peritoneum and an incision through the detrusor layers, so the 8cm renal calculus was removed. A bladder biopsy was performed to rule out any malignancy. Bladder wall was watertight repaired in 2 layers with vicryl 3.0 sutures. A Cyanide Blue (120ml) test was conducted and yielded a negative result. Peritoneal closure of the initial colpotomy was performed subsequently. Finally, a total colpectomy with Purse-string sutures and a perineorhaphy were done. The estimated blood loss (EBL) was 300ml, and the operative time was 120 minutes. The patient was discharged with normal renal parameters after 3 days, and the bladder catheter was removed 15 days later. Histopathological examination of the uterus, ovaries and biopsies showed normal histology. At the 3-month follow-up patient was free from symptoms, the PVR was <30ml, and the urine culture was negative.

INTERPRETATION OF RESULTS

Urinary stasis due to POP was the primary risk factor that contributed to the formation of stones in our case. Recurrent urinary tract infections as a result of urinary stasis could also contribute to urea breakdown, ultimately leading to the formation of stones. When irreducible procidentia is accompanied by chronic pain and voiding problems, the possibility of bladder calculi should be considered. In these cases, bladder biopsy is necessary because of the high association between bladder calculi >25mm and malignancy. (1) The surgical intervention should be considered urgent, and the literature appears to slightly lean towards the vaginal approach for cystolithotomy as opposed to the abdominal approach, but caution must be exercised to prevent any potential harm to the ureter and the formation of a fistula. (2) However, the limited literature so far does not provide clear answers as to whether the prolapse procedure and vesicolithotomy should be performed simultaneously or in two steps, which procedure should be prioritized, and which route is the most appropriate.

CONCLUSIONS

The comprehensive multi-compartmental irreducible prolapse presents a surgical challenge and may necessitate a multidisciplinary approach. The occurrence of cystolithiasis, albeit uncommon, should be taken into account when encountering the issue of incarcerated procidentia. Literature favors the vaginal route for vesicolithotomy.

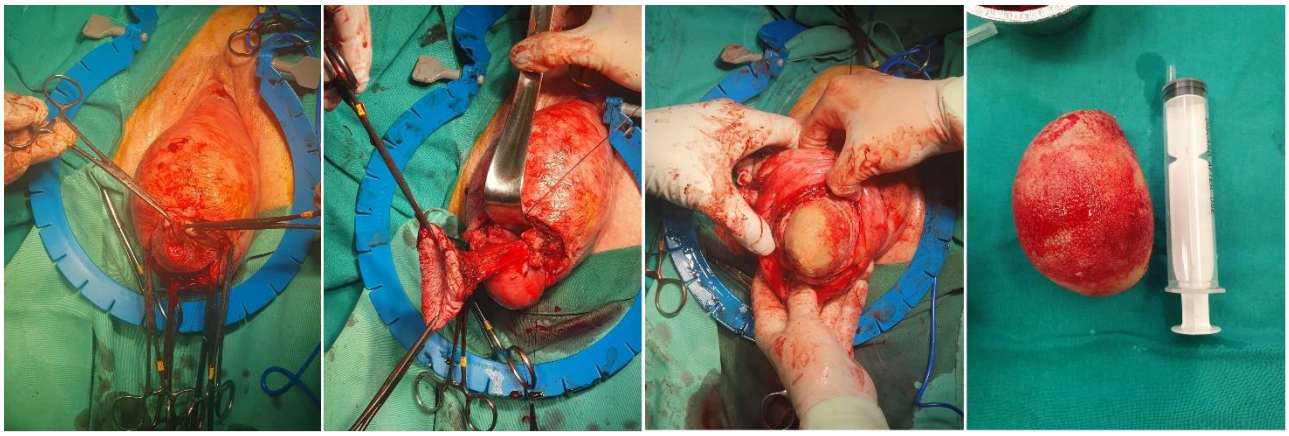

Figure 2: i) Total irreducible uterine prolapse, ii) Vaginal hysterectomy, iii) Reverse the bladder peritoneum, transverse incision, iv) 8cm renal calculus.

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91 - POTENTIAL HEALTH BENEFITS OF CURCUMIN ON CHRONIC PELVIC PAIN IN WOMEN

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a disturbing problem, which affect many adult women. The reported prevalence of POP is highly varied according to different studies and is found to be anywhere between 3% and 50% (1). The symptoms related to pelvic disfunction are following**:** a feeling of pressure or fullness in the pelvic area, painful intercourse, constipation and urinary problems such as leaking of urine or a chronic urge to urinate, cronic pelvic pain. Chronic pelvic pain is often difficult to treat, requiring a comprehensive multidisciplinary therapeutic intervention and a high level of management expertise The medicinal properties of turmeric, the source of curcumin, have been known for thousands of years; however, the ability to determine the exact mechanism of action and to determine the bioactive components have only recently been investigated (2). Antioxidant and anti-inflammatory properties are the two primary mechanisms that explain the majority of the effects of curcumin on the various conditions. The aim of the present study was to evaluate the potential effect of curcumin on patient-reported moderate to severe chronic pelvic pain.

MATERIALS AND METHODS

We considered 14 females with diagnosis of POP complicated by chronic pain in the period: February 2019 - Jennuary 2021. Women aged 32 to 78 years were considered eligible for participation to evaluation.. The study consisted of 2 consecutive months of treatment with curcumin: *daily dose* was *200 mg* (one tablet). Patients were asked to describe the pain intensity using the Numeric Rating Scale (NRS) immediately prior (T=0) and after 15 (T1) and 60 (T2) days of the treatment.

RESULTS

Women were treated for chronic pain with mean values of 7 at T0, 3,6 at T2, and 2.9 at T4. A reduction in the symptomatology from *T0 to T1* was maintained throughout T2. No adverse events were reported.

INTERPRETATION OF RESULTS

Patients suffering from chronic pain are usually difficult to treat with conventional therapy. Curcumin aids the management of oxidative and inflammatory conditions. It may also help in the management of exercise-induced inflammation and muscle soreness, thus enhancing recovery and performance in active people Most of these bebefict can be attributed to its antioxidant and anti.inflammatory effects. (3). This study is the first prospective trial about therapeutic action of curcumin on chronic pelvic pain. Limitation of this paper is represented by the absence of observational long-term follow up.

CONCLUSIONS

The data collected and analyzed showed a positive impact of the treatment with curcumin maintaned throughout the periode of absuption in patients suffering from chronic pelvic pain. The literature data, however, are hetereogeneous and not exaustive on the long term effectivenes of the treatment, For this reason, further research is needed to promote prospective studies on response maintenance over time.

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92 – LAPAROSCOPIC SACROCOLPORECTOPEXY – AN OPTION TO CORRECT CONCOMITANT PELVIC ORGAN- AND RECTAL-PROLAPSE. A SURGICAL VIDEO.

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INTRODUCTION

Laparoscopic sacrocolpopexy has been demonstrated to be the gold standard of prolapse surgery in cases with apical defect. According to our data, we have a result in a subjective cure rate of 95% after laparoscopic sacrocolpopexy. By patients with concomitant pelvic organ- and rectal-prolapse, we offer the option to combine laparoscopic sacrocolpopexy with rectopexy in order to solve the combined problem.

MATERIAL AND METHODS

The video demonstrates the case of a 63 years old patient undergoing laparoscopic sacrocolporectopexy because of vaginal prolapse II° and rectal prolapse III°. The anterior dissection is started by opening the vesico-vaginal space. Lateral dissection is performed by opening the paravaginal space and exposing the lateral edge of the vagina. The distal part of both ureters is dissected from the anterior parametrium to the bladder to avoid ureteral damage. The transient fixation of sigma after loosening of adhesions to the pelvic wall with T-Lifts helps to have more space and a much better view of structures in the posterior compartment and gives an optimal approach to the rectovaginal space. We dissect the rectum gradually from the posterior wall of the vagina until the muscles of the pelvic floor for deep attachment of the mesh in the posterior compartment. The exposing of rectum is important in order to fix the mesh on it and to remove it in the right position. Posterior mesh is sutured on the levator ani muscle and additionally on the rectum with four non-absorbable sutures. Both meshes are fixed at the longitudinal ligament of the promontory. At the end a fully peritonealization is performed. The preparation is anatomically not much difficult comparing with sacrocolpopexy but the experience of gynecologist is decisive.

RESULTS

The outcome of laparoscopic sacrocolporectopexy in our patient group is excellent. We made in the last 2 years five cases of laparoscopic sacrocolporectopexy. As we are following all our patients after laparoscopic sacrocolporectopexy, we have very good results at least in the short-term follow up.

CONCLUSION

Laparoscopic sacrocolporectopexy seem to be feasible and safe and is an option to correct laparoscopically concomitant pelvic organ- and rectal- prolapse in order to avoid laparotomy. This method can be performed by experienced gynecologists. Prospective anatomical and functional evaluation and data analysis must be done to scientifically verify these promising initial results.

93 - ABDOMINAL SACROPEXY: CLINICAL AND SUBJECTIVE OUTCOME OF PATIENTS WITH APICAL PELVIC ORGAN PROLAPSE: A RETROSPECTIVE COHORT STUDY.

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse [POP] is a frequent condition affecting more than 40% of parous women. Surgical treatment for POP follows a reconstructive, defect- and symptom-oriented approach: its goals are restoration of anatomical structures and functionality, as well as the improvement of prolapse-related symptoms. Abdominal sacropexy is an established procedure for apical prolapse repair and has a 91% success rate [1].
This retrospective cohort study investigated the clinical and subjective outcome of patients [pts] with apical POP, who underwent laparoscopic/robotic-assisted, or open abdominal sacropexy. The primary endpoint was to evaluate the clinical outcome (success rate, recurrence rate and long-term complications). Secondary outcome included subjective success rate, freedom of symptoms, and quality of life [QOL].

MATERIALS AND METHODS

This monocentric cohort study included pts who underwent abdominal sacropexy for apical POP from 01/2016 to 12/2021.

Patient demographics and clinical data of surgery and peri-/postoperative follow-up were evaluated. Subjective outcome and QOL were measured using the standardised German Pelvic Floor Questionnaire and Incontinence Questionnaire (ICIQ-UI-Short Form). Additionally, a study-specific questionnaire was designed to address patient-reported outcomes and experiences (subjective success of surgery, satisfaction with outcome, retrospective willingness to choose the same surgery again, recommendation to other women with prolapse symptoms, frequency of repeat surgery in case of dissatisfaction, postoperative changes in bladder function, and sexual life).

RESULTS

Thirty-two pts were included. Median age (range) was 57 (31−79) years. All pts reported prolapse-related symptoms. In addition, 10 pts (31%) reported urinary incontinence, i.e. stress urinary incontinence [SUI] (25%) and mixed urinary incontinence [MUI] (6%). Other symptoms included recurrent urinary tract infection [UTI] (3%), bladder voiding dysfunction (19%), and chronic constipation (6%). Eight pts (25%) had a history of surgery for POP, eight pts (25%) had prior hysterectomy. Stages of apical POP were stage II in 50 %, stage III in 34%, and stage IV in 13%. Five pts (16%) showed POP in all three compartments, 12 pts (38%) in two compartments (37.5%), and 13 pts (41%) exclusively in the middle compartment. Surgical approach was mainly laparoscopic in 24 pts (75%), of which 9 (28%) were robotic-assisted. An open approach was performed in 8 pts (25%). Twenty pts (63%) underwent sacrocervicopexy, 10 pts (31%) sacrocolpopexy, and 2 pts (6%) sacrohysteropexy. The type of DynaMesh® used was PRS soft in 20 pts (63%) and PRR soft in 12 pts (38%). Additionaly to apical prolapse repair, different surgical procedures were performed, including anterior (25%) and posterior (9%) colporrhaphy, and Burch colposuspension (13%). Overall, only one intraoperative complication (3%) occurred (intestinal lesion). Median hospital stay (range) was 4 (2−8) days, with 4 (2−6) days for laparoscopic/ robotic-assisted approach and 5.5 (4−8) days for open approach ($p < 0.001$). Wound infection occurred in 2 pts (6%), a femoral nerve lesion was observed in one patient (3%). Median follow-up time (range) was 7.8 (2−18) weeks for twenty-seven pts (84%). In follow-up examination one patient (4%) showed recurrent apical prolapse, 4 pts (15%) presented with stage II-III anterior compartment prolapse and 4 pts (15%) showed stage I-II posterior compartment prolapse. Four pts (13%) developed de-novo SUI, of which one patient required surgical treatment.
Patient-reported study-specific questionnaires were completed by all pts at baseline and after a median postoperative period (range) of 23.5 (7−77) months. Twenty-three pts (72%) were satisfied after surgery, 25 pts (78%) would choose this surgery again and recommend it to other women suffering from POP. Among pts reporting preoperative urinary urgency, 79% showed postoperative improvement of symptoms. 60% of sexually active pts experienced a positive effect on their sexuality. Patient-reported complications occurred in 16 pts (50%): UTI (25%), urinary retention (22%), and chronic pain (9%). Evaluation of the German Pelvic Floor Questionnaire revealed low prolapse-related symptom scores in bladder (median 10.6; range 0−33), bowel (median 7.3; range 1−18), prolapse (median 2.2; range 0−11), and sexual function (median 2.3; range 0−15). The median score (range) of the ICIQ-UI-Short Form was 5.5 (0−17).

INTERPRETATION OF RESULTS

Our retrospective data confirm the benefit of abdominal sacropexy using DynaMesh® for apical prolapse repair, as clinical effectiveness was excellent and vaginal erosion was not observed. Especially, in the majority of sexually active pts a positive impact was apparent confirming previous results [2].

CONCLUSIONS

Abdominal sacropexy showed excellent short-term clinical outcomes and low complication rates. Furthermore, abdominal sacropexy effectively improved long-term health-related QoL and patient satisfaction. Prospective data on clinical and subjective outcomes of pts with apical POP after abdominal sacropexy are currently being collected within a prospective study.

94 - 3D TRANSPERINEAL ULTRASOUND GUIDING EARLY SECONDARY REPAIR OF OBSTETRIC ANAL SPHINCTER INJURY IN A PATIENT WITH COMPLETE POSTPARTUM ANAL INCONTINENCE

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BACKGROUND

Anal incontinence secondary to obstetric anal sphincter injuries (OASIS) has a severely negative impact on women's quality of life. After primary repair, three-dimensional (3D) transperineal ultrasound (US) is an effective method to detect OASIS and monitor its healing process. In case of symptomatic suture dehiscence, growing evidence favours early rather than delayed secondary repair.

OBJECTIVE

In the present case of early secondary repair of OASI for symptomatic anal incontinence in the absence of superficial wound dehiscence, we hypothesized that preoperative 3D transperineal US have the potential to guide the surgeon in locating the defect thus reducing the extension of the surgical repair.

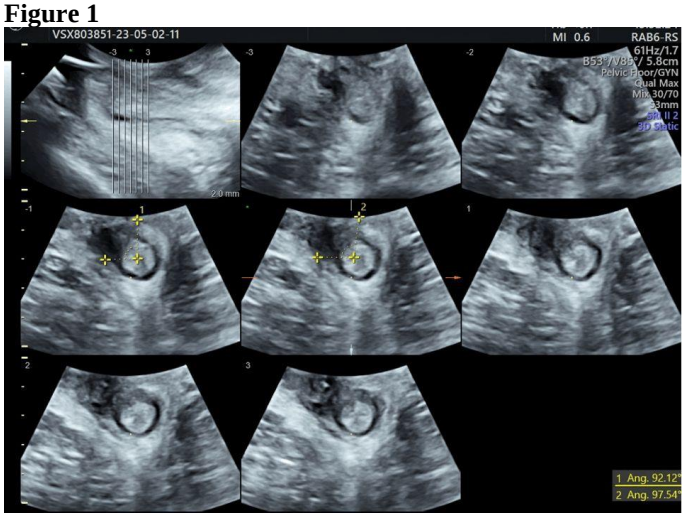
CASE PRESENTATION

We present the case of a 36-year-old primigravida who underwent induction of labour for severe polihydramnios at 38 weeks of gestational age. Labor pain was treated with epidural analgesia. She gave birth to a 3200g baby by a vacuum (Kiwi OmniCup™) operative vaginal delivery with mediolateral episiotomy. A "y"-shaped perineal tear with a grade IIIc obstetric anal sphincter injury (OASI) was diagnosed and repaired. Two days after delivery, in the absence of suture dehiscence, she started experiencing complete anal incontinence. A decision was made in association with a proctologic surgeon for an early secondary repair. Before surgery, a 3D transperineal US was performed. This imging technique revealed a defect of the external anal sphincter at the 11 o'clock position. This allowed to re-open only a circumscribed area of the perineal suture and to repair the sphincter using the end-to-end technique. The symptoms regressed completely and the patient was discharged home after 3 days. At one-month follow-up, 3D transperineal US demonstrated the gradual wound healing process.

CONCLUSION

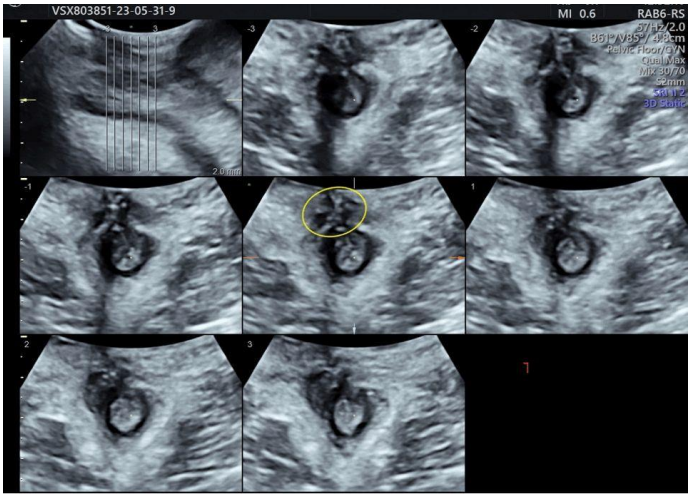
In order to minimize a dramatic impact on the quality of life, it is mandatory to guarantee a rapid and effective diagnostic and therapeutic pathway for patients suffering from severe postpartum anal incontinence. Even in the absence of an evident dehiscence of the primary suture, 3D transperineal US demonstrated to be a safe and effective tool to guide early secondary repair of symptomatic sequelae of OASIS. Preoperative exact localization of the lesion may allow to minimize the extent of the surgical repair and to successfully resolve the symptoms. Further evidence will ensure confirmation of these preliminary findings.

Figure 1



Preoperative 3D transperineal ultrasound. The angle highlights the external anal sphincter injuries at the 11 o'clock position.

Figure 2
3D transperineal ultrasound performed one month after secondary surgery. The anal sphincter repair is indicated by the yellow circle.



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95 - PELVIC FLOOR TRAUMA IN LABOR: DOES CERVICAL INFECTION INCREASE THE RISK OF PERINEAL TEARS?

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INTRODUCTION AND AIM OF THE STUDY

Pelvic floor trauma in childbirth has numerous effects on women's physical and mental well-being. Several risk factors for perineal tears have been identified in the literature. To our knowledge, the relationship between bacterial and fungal cervical infections and the degree of perineal tear has not been studied. However, it is known that infection is a risk factor for tissue damage. The study aimed to investigate the association between ongoing cervical infection and colonization with group B Streptococcus agalactiae (GBS) in the 35th-37th weeks of gestation and pelvic floor trauma during delivery.

MATERIALS AND METHODS

A study of 284 women after vaginal delivery was conducted from January to May 2023 in a tertiary obstetrics clinic. Sixteen women were excluded due to lack of cervical swab results, leading to 268 patients included for further analysis. Maternal age, BMI, parity, gestational age, concomitant diseases, induction of delivery and length of labor stages were analyzed. Cervical swabs of all patients were taken at admission to obstetrics department to establish current infection status. Cervical swab results conducted in 35th-37th weeks of gestation were collected and noted during admission. The perineal tear degree and results of cervical and GBS swabs were analyzed to establish if cervical infection is associated with pelvic floor trauma in labor. Parturients who underwent episiotomy, instrumental vaginal delivery, home births, breech births, cesarian sections and stillbirths were excluded from the analysis. Continuous variables were expressed as mean and standard deviation, categorical as percentages of the total group. The level of statistical significance was set at $p < 0.05$. Data were tested using Pearson's Chi-squared test with Yates' continuity correction and ANOVA test to check for significant differences between study groups in continuous variables.

RESULTS

The mean age and BMI of the study group were 32.7±4.0 years and 28.7±3.7 kg/m^2, respectively. For 59 (22%) women, it was their first vaginal delivery, and 209 (78%) women had previous vaginal deliveries. Of the women enrolled in the study, 103 (38.4%) had an active cervical infection and/or pathological bacterial colonization diagnosed at delivery time. Physiological bacterial flora in the cervical swab was found in 165 (61.4%) women. After vaginal delivery, 136 (50.7%) women had an intact perineum and 132 (49.3%) had a perineal tear, with 100 (37.3%) women having first degree, 30 (11.2%) second degree, and 2 (0.7%) third degree perineal tears. There were no patients with fourth degree perineal tears (Table 1). In physiological and pathological flora groups, 87 (52.4%) and 49 (48%) women had intact perineum and 79 (47.6%) and 53 (52%) had perineal tears, respectively. In GBS 35th-37th weeks colonization negative group, 90 (51.7%) had no perineal tears and 84 (48.3%) had perineal tears. In GBS positive colonization group, 17 (39.5%) had no perineal tears and 26 (60.5%) had perineal tears. Pearson's chi-squared test revealed no statistical significance between active cervical infection or GBS colonization and perineal tear degree ($p>0.05$) (Table 2). ANOVA test revealed maternal age, BMI, induction of labor, duration of the 2nd stage of labor, and birthweight were not associated with perineal tears ($p>0.05$). Higher number of previous vaginal deliveries was associated with intact perineum ($p<0.0001$). The effect size was weak with eta-squared statistic.

INTERPRETATION OF RESULTS

At admission to delivery, 103 (38.4%) of women had abnormal result of the cervical swab culture test, and 43 (16.0%) had vaginal and/or rectal GBS colonization. Of those, 53 (19.8%) and 26 (9.7%), had perineal tears during delivery, respectively ($p>0.05$). In the analyzed groups no significant statistical association was found between active cervical infection and perineal tear degree and between GBS cervical colonization and perineal tear degree ($p>0.05$).

CONCLUSIONS

Active cervical infection is not associated with perineal tears in the 1st and 2nd degree during vaginal delivery. Colonization of the vagina and/or rectum with GBS in the 35th-37th weeks of gestation is not associated with pelvic floor trauma during labour. Women with GBS colonization and/or active cervical infections should not be treated as high risk patients of perineal tears. Primiparity is a risk factor for perineal tears as previously documented by numerous authors. Consequently, a higher number of previous vaginal deliveries is a protective factor of pelvic floor trauma.

Table 1. Characteristics of the study group

Variable	Study group (n=268)
Age (years) mean ± SD	32.7 ± 4.0

BMI (kg/m2) mean ± SD	28.7 ± 3.7
Vaginal birth (number) 1 ≥2	 59 (22.0%) 209 (88.0%)
Gestational age (weeks) <29 29-32 33-36 37-40 >40	 3 (1.1%) 1 (0.4%) 2 (0.7%) 185 (69%) 77 (28.7%)
Perineal tear Intact perineum 1st degree 2rd degree 3rd degree 4th degree Labia Minora tear (additional) Vaginal Mucosa tear (additional)	 136 (50.7%) 100 (37.3%) 30 (11.2%) 2 (0.7%) 0 18 (6.7%) 15 (5.6%)
Weight of neonate (grams) mean ± SD	3447.18 ± 478.3
Induction of labor Foley catheter Oxytocin	 61 (22.8%) 79 (29.5%)
Duration of 1st stage of labor (minutes)	266.67 ± 142.24
Duration of 2nd stage of labor	32.40 ± 29.13
GBS colonization 35th-37th weeks: cervical and anal swab Negative Positive Incomplete	 174 (64.9%) 43 (16.0%) 51 (19%)
Cervical swab result at admission Physiological flora Pathological: Ureaplazma urealiticum GBS Candida spp. E.coli E. Faecalis S. Haemoliticus Klebsiella spp. S. Aureus Mycoplazma spp. S. epidermidis Gardenella spp. Proteus mirabilis S. Pneumoniae S. Lugdunesis	 166 (61.9%) 102 (38.1%) 35 (13%) 26 (9.7%) 17 (6.3%) 12 (4.5%) 3 (1.1%) 2 (0.7%) 1 (0.4%) 1 (0.4%) 1 (0.4%) 1 (0.4%) 1 (0.4%) 1 (0.4%) 1 (0.4%) 1 (0.4%)

Table 2. Comparison between intact perineum and perineal tears study groups

	Intact perineum (n=136)	**Perineal tear (n=132)**	**p**	ges
Cervical swab result at admission Physiological (n=166)	87	79	0.60*	

Abnormal (n=102)	49	53		
Group B Streptococcus agalactiae at 35-37th weeks of gestation No colonization Colonization Status unknown/incomplete	 90 17 29	 84 26 22	 0.22*	
Age (years)	31.97 ± 5.1	31.22 ± 4.8	0.22**	0.01
BMI (kg/m^2)	28.96 ± 4.4	28.65 ± 4.6	0.57**	0
Induction of labor	43 (54.4%)	36 (45.6%)	0.49**	0
Second stage of labor (minutes)	28.93 ± 26.7	35.45 ± 31.0	0.09**	0.01
Vaginal birth (number)	2.42 ± 1.1	1.98 ± 0.9	**0.000****	**0.04**
Weight of baby (grams)	3391.71 ± 479.3	3494.09 ± 479.0	0.08*	0.01

* Pearson's Chi-squared test with Yates' continuity correction, ** ANOVA test, ges – generalized eta squared

96 - USING VIRTUAL REALITY FOR ANXIETY AND PAIN RELIEF IN OUTPATIENT URODYNAMICS - A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION

Urodynamics examination is an invasive procedure and may be perceived as unpleasant by the patient. Virtual reality (VR), a novel intervention, has been studied as a distraction technique for non-pharmacological pain and anxiety relief in clinical settings.

OBJECTIVE

We aimed to evaluate the effectiveness of VR as a distraction method in the management of anxiety and pain during a Urodynamics examination.

METHODS

A prospective randomized controlled trial was conducted in a university-affiliated medical center between December 2022 and April 2023. IRB was obtained. Fifty-eight women undergoing urodynamics examination were randomly allocated to either the VR or no VR (control group). VR was applied during the procedure before the insertion of catheters. The primary outcome was anxiety, and the secondary outcome was pain perception. Anxiety was measured with the state version of the Spielberger State-Trait Anxiety Inventory. The pain was measured with visual analog scores performed before and immediately after the procedure.

RESULTS

29 women were randomly allocated to the VR group and 29 to the control group. General characteristics such as age, parity, menopause, smoking, and indication for the examination were similar between both groups (Table 1).
The mean anxiety and pain perceptions were the same in both groups before the urodynamic evaluation. Compared with standard care, women with virtual reality intervention experienced a higher decrease in pain and anxiety scores (p-value *<0.001*), as shown in Table 1.

Table 1.

	Without VAR (n = 29)	With VAR (n = 29)	*p*
Age	63.5 ± 11.2	63.6 ± 15.6	*0.98*
Parity	2.8 ± 1.3	3.4 ± 1.1	*0.054*
Smoking	3 (10.3%)	2 (6.9%)	*0.64*
Menopause	24 (82.9%)	22 (75.9%)	*0.52*
Main indications for UDs:			
- POP	11 (37.9%)	11 (37.9%)	*1.0*
- LUTs	18 (62.1%)	18 (62.1%)	*1.0*
VAS for pain (1-10):			
- Before	5.0 ± 2.2	5.9 ± 2.4	*0.11*
- After	3.6 ± 2.2	1.9 ± 1.4	*0.001*
- Delta	1.4 ± 1.5	4.0 ± 2.3	*<0.001*
STAI score (20-80):			
- Before	40.4 ± 11.4	40.9 ± 11.8	*0.86*
- After	37.3 ± 10.2	24.1 ± 6.9	*<0.001*
- Delta	3.1± 7.6	16.8 ± 10.1	*<0.001*

UDs = Urodynamic study
POP = Pelvic organ prolapse
LUTs = Lower urinary tract symptoms
VAS = Visual analog scale
STAI =State-Trait Anxiety Inventory (for adults)

CONCLUSION

Virtual reality effectively reduced anxiety and pain perceptions during urodynamics examination, thus may be used as part of the urodynamics care setting to improve patient's experience.

97 - COMPARISON OF PREMENSTRUAL SYNDROME AND DYSMENORRHEA IN WOMEN GIVING BIRTH AND NULLIPAROUS

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INTRODUCTION AND AIM OF THE STUDY

The menstrual cycle is a physiological process that occurs in women's lives. Numerous studies conducted so far (1-3) show that it can be accompanied by dysmenorrhea, as well as premenstrual syndrome manifested by physical and psychological symptoms. The aetiology of both diseases is still the subject of numerous studies, however, it is known that genetic, anatomical, psychological, environmental and socio-cultural factors are considered the basis for their development. The aim of this study is to compare the level of dysmenorrhea and premenstrual syndrome between women giving birth and nulliparous.

MATERIALS AND METHODS

The study involved 207 women (group I - women giving birth, n=81 (39%), group II - nulliparous, n=126 (61%)), with a history of premenstrual syndrome and dysmenorrhea. The intensity of premenstrual syndrome (using the Premenstrual Syndrome Scale, PMSS) and the level of dysmenorrhea (assessed with the Visual Analogue Scale, VAS) were assessed in the surveyed women.

RESULTS

In women giving birth, there was a statistically lower average value of PMS intensity (group I - 83.3, group II - 111.2, $p<0.001$) and a lower level of dysmenorrhea compared to women who did not give birth (VAS, group I - 3.9, group II - 6.8, $p=0.004$).

INTERPRETATION OF RESULTS

The results of the study showed that women giving birth had a lower mean dysmenorrhea intensity level as measured by the visual analog scale (VAS) compared to nulliparous women. It is interesting wheather the experience of childbirth may affect the perception and interpretation of pain in the nervous system of these women.
Moreover, the mean premenstrual syndrome intensity is shown to be higher in nulliparous women compared to those who have experienced childbirth. The conducted study can be treated as a pilot study to examine the effect of childbirth on reducing dysmenorrhea and premenstrual syndrome.

CONCLUSIONS

A history of pregnancy and childbirth may be a factor in reducing the level of dysmenorrhea and the level of PMS.

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98 - A COST-EFFECTIVE MODEL FOR TRAINING IN ROBOT-ASSISTED SACROCOLPOPEXY

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INTRODUCTION AND AIM OF THE STUDY

The number of robotically assisted sacrocolpopexy procedures are increasing; therefore, experienced clinicians are needed. Simulation-based cadaver models are challenging in aspects of cost and availability. Therefore, we need to look at alternative and more cost-effective models. The objective of this video was to design a new surgical model for the training of robotic-assisted sacrocolpopexy, which is affordable and accessible.

MATERIALS AND METHODS

We used a whole chicken model to simulate the female pelvic floor. We used Medtronic's Hugo™ RAS system as the robotic console in that procedure. A vaginal cuff was prepared from the proventriculus (stomach), and a Y shaped mesh was secured to the ischium to simulate the sacrocolpopexy procedure.

CONCLUSIONS

This model is easily constructed and in our view is cost-effective. We have demonstrated a new valuable education tool that can serve as a practical simulation model to teach the sacrocolpopexy procedure and to improve trainees' skills. A larger cohort study size is essential to demonstrate the learning curve among young trainees using this simulation model.

99 - A URETEROVAGINAL FISTULA FOLLOWING MUSPACC SURGERY

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INTRODUCTION AND AIM OF THE STUDY

Midline uterosacral plication anterior colporrhaphy combo (MUSPACC) is described as a safe surgical treatment for apical and anterior vaginal wall prolapse with minimal risk of ureter injury (1). Risk of ureter injury is reported to be 3.7% in vaginal repair of pelvic organ prolapse with uterosacral suspension (2). We report a rare complication after MUSPACC surgery and want to make pelvic organ surgeons more aware of this type of complication.

MATERIALS AND METHOD

This is a case report of a rare postoperative complication after prolapse surgery with native tissue.

RESULTS

A 74-year-old patient, with a history of vaginal hysterectomy, presented with a grade 3 cystocele and grade 2 apical prolapse.
A MUSPACC operation was performed without perioperative complications. The following day the patient was discharged home.
One month postoperatively the patient presented with oozing incontinence, but no signs of infection and no pain. A leakage of clear fluid from the vaginal cicatrice was found.
Ultrasound showed a normal bladder capacity and right-sided hydronephrosis. The vaginal fluid was tested for creatinine and showed elevated values of > 3500 umol/l, therefore diagnostic of urine leakage.
In order to ease detection of vesicovaginal fistula, a sterile solution made of methylene blue (MB) and normal saline was prepared and instilled into the bladder. White sterile dressings were placed into vagina, but no leakage of MB was detected.
Computed tomography (CT)-urography confirmed right-sided hydroureter and hydronephrosis and showed contrast in vagina as a sign of lesion of urinary tract (Fig.1). A nephrostomy catheter was administered and symptoms of incontinence diminished. In addition, an antegrade pyelography was performed and showed slow passage of contrast through the distal ureter on the right side and leakage of contrast through the vaginal wall as a sign of a fistula (Fig.2).
The patient was referred to a specialized department awaiting robot assisted laparoscopy with neo-implantation of the right ureter.

INTERPRETATION OF THE RESULTS

This case presents a severe complication after MUSPACC surgery performed on a patient with former surgery of pelvic organ prolapse. CT urography and a complementary antegrade pyelography were diagnostic tools to detect and describe the lesion of urinary tract.

CONCLUSION

Although ureter-vaginal fistulas are a rare complication, surgeons must be aware of this complication especially with patients presenting with oozing incontinence postoperatively. Cystoscopy performed perioperatively may have led to immediate detection and management of this complication.

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Figure 1. CT urography, excretory phase. Contrast in right ureter, bladder and leakage to vagina.

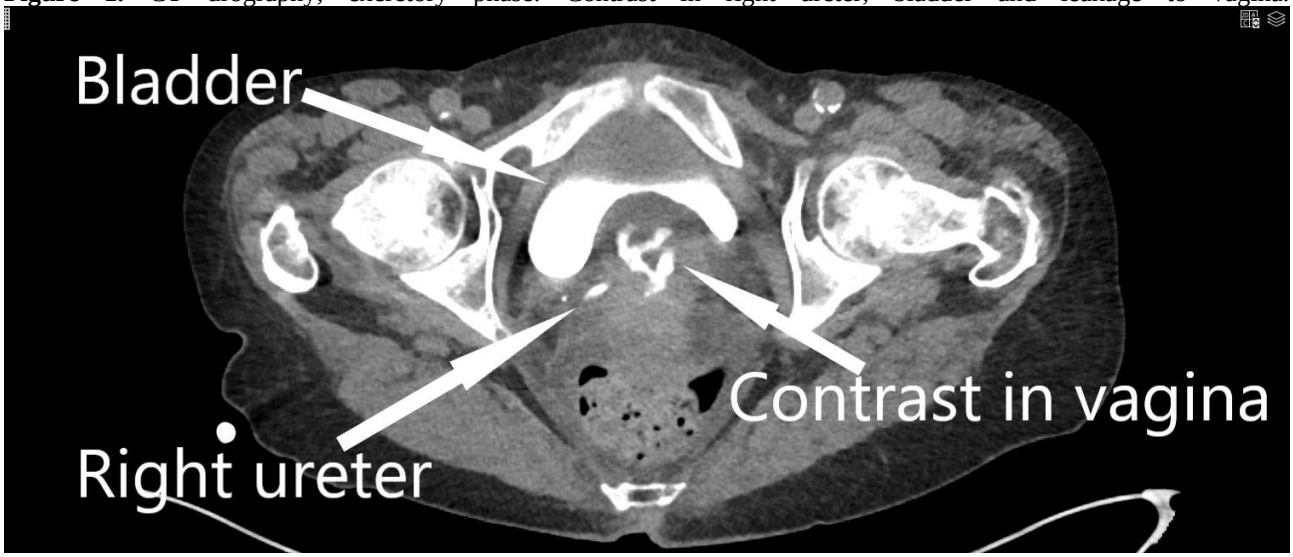
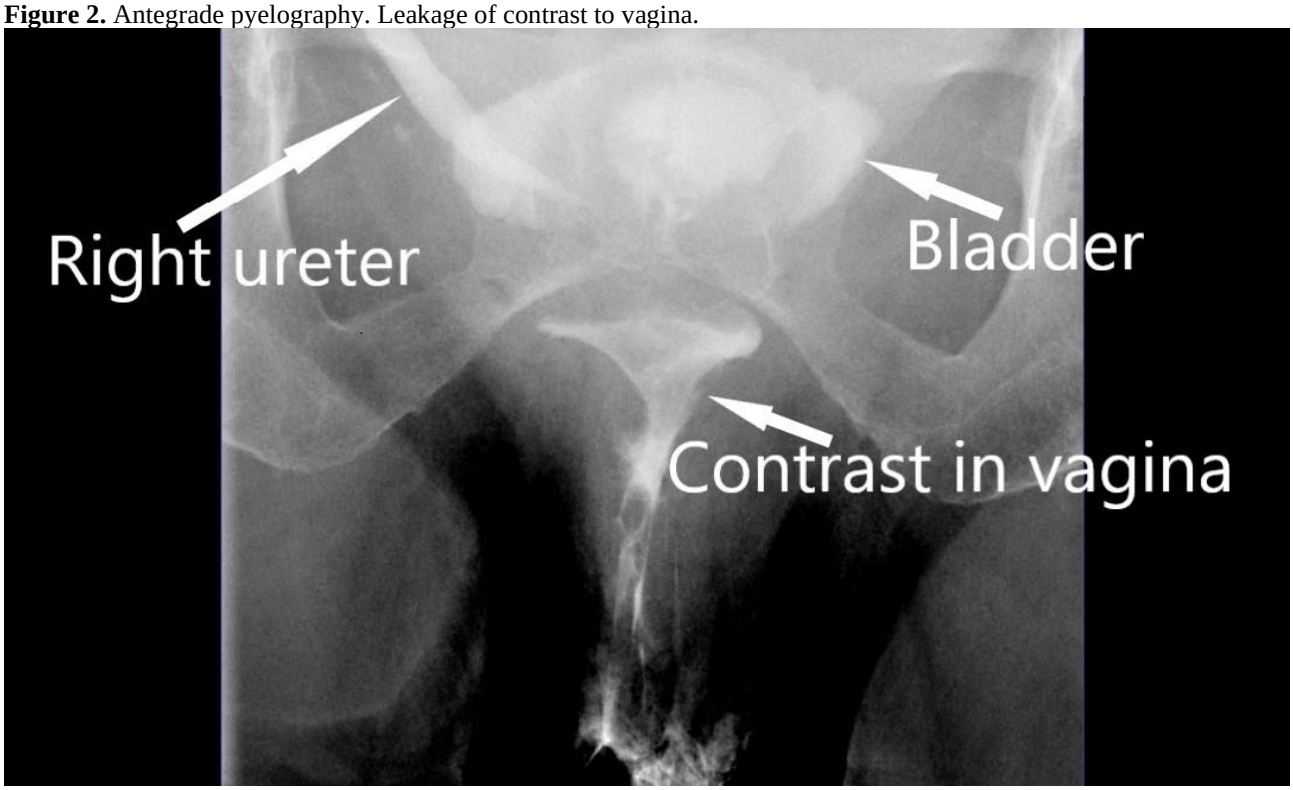


Figure 2. Antegrade pyelography. Leakage of contrast to vagina.



100 - LAPAROSCOPIC HYSTEROSACROPEXY USING NATIVE TISSUE GRAFT-A PILOT STUDY

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INTRODUCTION

Pelvic organ prolapse affects approximately 50% of women after childbirth, and the lifetime risk to undergo surgery is approximately 13%. Proper qualification for surgical treatment and the choice of the surgical technique depends on the localization and extension of the defect and is also crucial for obtaining satisfactory results of surgical treatment. Research indicates that the most common defect is the damage of the sacro-uterine ligaments, causing a level I defect according to the De Lancey classification. This type of defect is the main or the sole etiological factor for the pelvic organ prolapse in the anterior and middle compartment and occurs in approximately 70% of patients with POP. The most common treatment of the level I defect is performed laparoscopically using alloplastic material. More and more often methods using patient's own tissues in order to avoid complications due to alloplastic material are reported.
In addition, due to the FDA warnings and the associated doubts and fears, more and more patients are expecting the use of native tissue in pelvic floor repair.

PURPOSE OF RESEARCH

The aim of the study was to evaluate the surgical technique of laparoscopic hysterosacropexy using native tissue in the repair of the apical defect. The tolerance of the procedure, the reconvalescence, early postoperative course and the effectiveness of the procedure as well as complications in the long-term follow-up were assessed.

MATERIALS AND METHODS

The study group consisted of 10 patients with a diagnosed level I defect according to the De Lancey classification at least POP Q II. Exclusions criteria's were: obesity, previous surgery in the abdominal cavity and pelvic floor, and / or in the knee joint.
Procedure technique: laparoscopic hysterosacropexy with the use of a tendon of the semitendinosus muscle or the slender muscle (m. Gracilis) instead of the alloplastic material used in the classical technique. The choice of the tendon depended on individual patients conditions. In order to analyze the patients' complaints, the PFIQ-7 form was used in the period before the surgery, 6 weeks after and 6 months after the surgery. In the same intervals the gynecological examination was carried out.

RESULTS

In the early period of observation, we noticed a good tolerance of the procedure, no early complications, based on the assessment of post-treatment effects. In all patients based on the PFIQ-7 assessment, we could observe a clear improvement in the complaints reported before the procedure. The anatomical results was POP Q 0 in level I, in one Patient after the period of 6 months a cystocele POP Q II without complaints was observed. Patients complained of slight pain after the surgery in the operated. In the first three days the pain was assessed in average 3 in VAS (0-10). The average operating time was 85 minutes, which is comparable with laparoscopic hysterosacropexy using alloplastic material. A significant blood loss in any operation was observed.

DISCUSSION

To draw long-term conclusions, a longer follow-up period is needed. A prospective, randomized study in larger study group is needed and scheduled to compare the current gold standard laparoscopic hysterosacropexy using alloplastic material with the same operating technique using native tissue.
A slight difficulty may be caused by the surgical technique for the extraction of the tendon, it does not exclude the performance of this procedure by a gynecologist, however the learning curve of this procedure may be long. Therefore we recommend to perform this procedure in cooperation with an orthopedist.

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101 - TO EVALUATE THE CHANGES IN THE PELVIC FLOOR ANATOMY AND FUNCTION AFTER CHILD BIRTH BY TRANSLABIAL USG - A CROSS SECTIONAL OBSERVATIONAL STUDY

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INTRODUCTION AND AIM OF THE STUDY

Pelvic floor dysfunction in female is a common gynaecological disorder, and is a general term for a series of disorders caused by abnormal pelvic floor structure and function, mostly in middle aged and elderly women. its clinical manifestation includes pelvic organ prolapse, stress urinary incontinence, over active bladder syndrome and faecal incontinence .it is believed that pregnancy, child birth, perineal injury, long term constipation, pelvic surgery and other causes of pelvic support structure relaxation injuries and defects are risk factors for female pelvic floor dysfunction,[1-3] of which pregnancy and deliveries are considered main factors.
Aim -To evaluate the changes in pelvic floor anatomy and function after child birth by trans labial ultrasound.

MATERIALS AND METHODS

This is a cross sectional observational study.
-Women having up to 3 deliveries either by vaginal or lower segment caesarean section, included in this study.
- Age of women between 21 to 35 years included in this study.
-300 women recruited for study.
-after well informed written consent, pelvic floor study of all women done by trans labial ultrasound.
In this study we assess the position of urethral neck, mobility of urethra, cystocele, uterine decent, rectocele, injury to levator ani muscle, urogenital hiatus area and integrity of anal sphincter.

RESULTS

In women having one child by vaginal birth with episiotomy have less changes in their pelvic floor anatomy and its function, hiatus area is increased slightly as compared to normal para meters. relaxation of pelvic muscle is present as compared to normal tone after delivery. Urethral neck mobility is slightly increase.
Women who had vaginal delivery without episiotomy had decreased anal sphincter tone, avulsion of levator ani muscle, decent of bladder and increased mobility of bladder neck and urethra as compared to who had episiotomy during delivery. These finding are exacerbated with increase in parity.
Women who had direct LSCS,they have only increased relaxation of pelvic floor muscles and rest other parameters are almost normal.

INTERPRETATION OF RESULTS

Normal delivery is the most common cause of pelvic floor injuries. episiotomy decrease the extent of trauma to some extent. episiotomy have no effect on changes that happened in pelvic floor at ischial sine level or above that. LSCS has definite effect on injury to levator ani muscle. women had LSCS deliveries, have no injury to levator ani and and size of hiatus is also remained normal after delivery. Only relaxation of pelvic floor muscle occurs in these women. Parity increases the level of injuries to pelvic floor, tone of anal sphincter, decent of bladder, mobility of bladder neck, urethra1 mobility and post compartment defects in vaginal delivery patients.

CONCLUSIONS

Women who had vaginal deliveries have more trauma to pelvic floor as compare to women who delivered by LSCS(without trial for normal delivery).

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102 - GEHAD'S MODIFIED SACROSPINOUS HYSTEROPEXY

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BACKGROUND

Female genital prolapse is a global burden affecting the quality of life of a significant number of earth's population. It can be as high as 40-50% of women at different ages but more common after the age of 50. Up to 10 percent of women are symptomatic and the rest were diagnosed on examination. Uterine prolapse is the most common type of uterine prolapse accounting for nearly 50% of prolapse cases. Moreover, uterine preservation surgery are becoming more frequently done.

METHODS

Traditionally the uterus could be fixed using either a vaginal or an abdominal approach. The vaginal approach is widely accepted as there is no use of a mesh. The standard techniques involves a longitudinal posterior vaginal wall incision starting from the posterior fourchette up to the posterior fornix. Lateral dissection in the ischiorectal fossa is performed to reach the sacrospinous ligament. Suture are subsequently placed to fix the cervix to the lateral part of the ligament at least 2.5cm from the ischial to avoid injury of the vessels and nerves.
A modified access has been adopted which involves a transverse incision in the vagina at the cervicovaginal junction after vasoconstrictor injection. Posterior peritoneum should not be incised. Lateral dissection of the vagina is performed to reach the sacrospinous ligament is performed. Using Capio Slim two sutures are placed in the ligament and the other end is sutures in the posterolateral aspect of the cervix at the distal most part of the cervix to achieve maximum elevation of the prolapsed uterus. Closure of the vaginal wall is performed using continuous underrunning sutures. The Sacrospinous sutures are then tied to lift the uterus to be attached to the ligament,

RESULTS

The procedure was performed as a day case for all cases. As the procedure avoids incision in the skin and the perineum, patients have reported minimal pain relief required. There is also a reduced need for low molecular weight heparin as the procedure did not exceed 60 minutes. Follow up in 3 months post surgery showed improved POP-Q score and QoL score.

CONCLUSIONS

The modified access provided equivalent prolapse correction results with lower pain scores and smoother recovery due to avoidance of perineal skin and muscles incision in cases not requiring posterior vaginal wall repair. Blood loss was not increased as the access did not involve significant vaginal tissue dissection as well as avoiding rectal fascia damage, hence vaginal packing was not required.

103 - EMERGENCY SACROSPINOUS HYSTEROPEXY AND ANTERIOR COLPORRHAPHY FOR SEVERE PROLAPSE CAUSING URINARY RETENTION, PAIN AND RENAL IMPAIRMENT IN A PATIENT WITH INOPERABLE BREAST CANCER

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INTRODUCTION AND AIM OF THE STUDY

This case report highlights the complex combination of factors that can lead to acute kidney injury (AKI) in a 78-year-old patient with complete procidentia, causing renal impairment and ureteric obstruction. Her past medical history includes CABG 13 years ago, atrial flutter, hypertension, hypothyroidism, and intraductal breast cancer. The aim of this study is to present a detailed clinical description of an interesting case, management strategies, and outcomes for educational and research purposes.

MATERIALS AND METHODS

Following an obtained consent to publication of images and information, we conducted a retrospective analysis of the medical records and imaging studies of the patient. Information gathered included patient's medical history and previous treatments, initial presentation to emergency department, laboratory results, imaging studies and progress notes during hospitalization.

The patient presented feeling faint and unwell. A thorough medical history and physical examination were performed, which revealed a history of bladder prolapse and difficulty passing urine, complete procidentia was visible and inflammed, causing considerable pain. A CT scan of the urinary system without contrast showed bilateral hydronephrosis and distended bladder suggesting obstruction due to uterine prolapse. The diagnosis of stage IV AKI was confirmed by elevated creatinine and blood urea nitrogen levels, which prompted the initiation of intravenous antibiotics (Tazocin), fluids, a foley's catheter for continuous bladder drainage and a vaginal pack in situ. The vaginal pack and a wide range of pessaries would fall out when the patient stood up. The patient was severely distressed by her prolapse and asked for surgery to be done to improve her quality of life, as a palliative procedure.

After an MDT meeting, anterior colporrhaphy, sacrospinous hysteropexy and colpoperineorrhaphy, and was agreed to improve quality of life. The surgery was carefully planned, taking into consideration the risks associated with anaesthesia and surgery in an elderly patient. Pre-operative optimisation included estrogen packs, cardiovascular and renal optimisation.

RESULTS

Postoperatively, the patient had haematuria which was considered related to the surgery, and further investigations with a KUB scan revealed a right cortical cyst but was otherwise normal. Urology team advised for a bladder washout after which the patient was discharged with improved urine, and cystoscopy arranged for later. Discharge plan included TWOC in 2 weeks' time and to continue on oral antibiotics.

The patient was pleased and grateful to have surgical correction of her prolapse. She was discharged home after 4 days.

INTERPRETATION OF RESULTS

The surgical intervention successfully resolved the uterine prolapse, which was the primary cause of ureteric obstruction and AKI in this case. Despite experiencing haematuria postoperatively, the patient showed improvement in kidney function and was ultimately discharged with improved urine output.

This case emphasizes the importance of careful diagnosis and multidisciplinary management in patients with complex urogynaecological conditions leading to AKI. Additionally, it highlights the need to consider carefully all risks associated with surgery and optimise patients with multiple comorbidities.

CONCLUSIONS

Prolapse surgery can be performed safely and improve the quality of life even in a patient with terminal breast cancer. Sacrospinous hysteropexy was effective in managing her prolapse.

104 - SUCCESSFUL MANAGEMENT OF URGENCY URINARY INCONTINENCE IN A 54-YEAR-OLD FEMALE PATIENT WITH PREVIOUS SUBURETHRAL MESH SURGERY: A CASE REPORT

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INTRODUCTION

This case report presents the successful management of urgency urinary incontinence (UUI) in a 54-year-old female patient who experienced persistent symptoms despite medical treatment. The patient had a history of anti-incontinence surgery with transobturator suburethral mesh placement at the age of 46. She had also undergone multiple pregnancies, cesarean deliveries, and experienced menopause at 46 years.
Despite previous interventions, the patient continued to experience UUI. A pelvic floor ultrasound revealed a hypercorrective mesh in the external third of the urethra. The final diagnosis was urgency urinary incontinence secondary to bladder overactivity due to the hypercorrective mesh.

RESULTS

The case was presented to a multidisciplinary committee, and a surgical approach involving mesh sectioning and intravesical botulinum toxin instillation was proposed. The patient underwent the recommended procedure, resulting in a significant improvement in urinary incontinence with no recurrence of stress urinary incontinence.

INTERPRETATION OF RESULTS

This case highlights one of the most important complications associated with suburethral mesh surgery, such as hypercorrection leading to urgency urinary incontinence. Mesh sectioning was found to be an effective solution in managing the condition, while secondary treatment with intravesical botulinum toxin addressed bladder overactivity in cases where medical treatment is ineffective.

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105 - HYBRID SURGERY: NEW APPROACH FOR HIGH GRADE MULTICOMPARTMENTAL PROLAPSE ASSOCIATED WITH EARLY ENDOMETRIAL CANCER

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INTRODUCTION AND AIM OF THE STUDY

Pelvic organ prolapse (POP) is a common condition in elderly women leading to a relevant decrease in health-related quality of life with social impact.
It is estimated that the demand for pelvic prolapse treatment will increase by 35% from 2010 to 2030, and surgical intervention rates for pelvic prolapse will increase by 42.7% by 2050. [(1)(3)]
Moreover, the incidence of malignancy is incresed and risk peaks in the 75-84 years old population.
Endometrial cancer (EC) is the second most frequent gynaecological cancer in the world and the first in continental Europe with an incidence rate of 15.8 cases /100000 women per year in 2018.
The predominant modifiable risk factor for EC development, is the obesity along with a parallel increase in a wide cluster of other common risk factors such as diabetes, metabolic syndrome, smoking, reduced fertility rates and menopausal hormone use (especially estrogen plus progestin formulations) may play a key role. The incidence of endometrial cancer coexistent with POP varies from 0.2% to 1.2% and it should increase in future. [(1)]
Due to the uncommon association of illnesses, standardized treatment is not established, and overall management is controversial. [(2)(3)]
The standard treatment for early-stage endometrial cancer in our institution is robotical-assisted-laparoscopy, with pelvic sentinel lymphonode dissection, radical hysterectomy and bilateral salpingo-oophorectomy
(RRH-BSO).
Laparoscopy seems to provide equivalent results in terms of disease-free survival and overall survival compared with laparotomy, with the advantages of decreased hospital length stay, less use of pain killers, lower rate of complications and improved quality of life. A potential enhancement to laparoscopy has been provided by the robotic approach with a high 'benefit' in obese women, reducing major complications rate as wound complications and infections. [(3)]Due to high grade patient satisfaction and lower reintervention rate secondary to vaginal reconstructive surgery, we prefer to adopt native tissue repair (NTR) to correct primary POP (Pelvic organ prolapse).
To treat high grade prolapse concomitant with early endometrial cancer our hybrid surgical approach consists in a combination of vaginal route with robotic surgery. [(2)]

MATERIALS AND METHODS

A well-being 70-year-old patient, without HRT (hormone replacement therapy), complains third degree prolapse (POP-Q III stage prolapse, anterior/posterior wall and central II stage) without urinary incontinence or obstructed defecation but a long history of constipation.
Due to abnormal uterine bleeding (AUB), she underwent to hysteroscopy.
Histopathological result demonstrate well-differentiated endometrial endometrioid G1 adenocarcinoma, ER positive, PgR receptor positive, hMSH6 present. No signs of distant infiltration at CT scan were reported**.**
Her medical history presents two vaginal deliveries (P2002), hiatal hernia, MRGE and previous HPV infection.
She underwent to hybrid surgery, an innovative therapeutic approach including double access route with a robot-assisted laparoscopy (Da Vinci Xi) for total Hysterectomy, bilateral Adnexectomy, peritoneal lavage and sentinel Lymphnode excision and retrograde robotic cystopexy with a simultaneous repair of the rectocele by the vaginal route.
Under general endotracheal anesthesia, in a supine position a Clermont ferrand uterine manipulator was placed to mobilize the uterus during the procedure.
The first phase of procedure was the dissection of bilateral pelvic sentinel lymphonodes sending for ultrastaging analysis.
The second phase including radical hysterectomy and bilateral salpingo-oophorectomy (RRH-BSO), specimen was exctracted from vaginal route and subjected to a definitive histological analysis. An innovative approach to anterior prolapse named "Retrograde Cistopexy" was performed with a robotically assisted dissection of the vesicovaginal space until vesical trigone. A triangular piece of vaginofascial tissue with the apex at the urethrovesical junction was removed. A full thickness running longitudinal suture of the breach was performed.
A robotically inverted McCall suspension of the apex is performed including the cuff of the vagina and a running transversal suture of the vault with a partial peritonization of cuff completes the first part of our hybrid surgery.
Our native tissue repair (NTR) procedure was completed by vaginal route. A colpoperineorraphy was performed with dissection of rectovaginal septum, its duplication from the perineum to the apex of vagina, and reconstruction of perineal body. Minimal excision of vaginal and skin excess following by a running vaginal suture including perineal skin concluded our procedure.

RESULTS

Post-operative recovery was regular, except for post-void residual volume in second and third days after surgery resolved with intermittent catheterization and cortisone plus alphalitycs. Bowel movement, diuresis and urination were regular at redundancy.

At postoperative checkup, vaginal examination and ultrasound confirmed absence of prolapse, and good cicatrization. Histopathological results diagnosed endometrial adenocarcinoma endometroid type 1 (G2), FIGO 1A, staging pT1a, N0, Mx; with immunophenotype p53 (+) 50%, ER (+)90%, PR (+) 90%, MSH2 100%, MSH6 100%, MLH1 + 100%, PMS2+ 100%, ki67 80%; Sentinel lymphonodes, parameters and peritoneal washing were negative for cancer. Multidisciplinary team rules on surveillance of 5 years.

CONCLUSION

Surgical management of high grade multiorgan pelvic prolapse associated with early endometrial cancer is feasible, effective and satisfying, thanks to an innovative proposal named hybrid surgery combining robotics and vaginal approach. This strategy of procedure should become reproducible to treat early endometrial cancer together with high grade prolapse cases.

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106 - LOCAL TRANEXAMIC ACID INFILTRATION FOR HEMORRHAGE CONTROL IN VAGINAL HYSTERECTOMY-A PILOT DOUBLE-BLINDED RANDOMIZED PLACEBO-CONTROLLED TRIAL

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INTRODUCTION AND AIM OF THE STUDY

Vaginal hysterectomy is one of the most common major gynecological surgical procedures. Tranexamic acid is an antifibrinolytic agent which enhances blood clotting and hemostasis with a wide safety profile. In the last decade, intravenous use of tranexamic acid has become widely available and predominantly used as a prophylactic antihemorrhagic agent in surgical procedures. However, data regarding the local use of Tranexamic acid in relation to vaginal hysterectomy are sparse. Our objective was to investigate the antihemorrhagic effect of prophylactic local use of tranexamic acid in elective vaginal hysterectomies.

MATERIALS AND METHODS

We conducted a double-blinded, randomized, placebo-controlled trial at a tertiary medical center in Israel from April 2021 to April 2023. This study conforms to the CONSORT recommendations.
Patients undergoing benign vaginal hysterectomy were included in the trial. Patients were randomized to either 1 g of local vaginal infiltration of tranexamic acid or a placebo of 0.9% Sodium chloride at the beginning of surgery. The primary outcome was the delta between pre and post-operative hemoglobin levels.

RESULTS

28 patients were included in this trial. Demographic characteristics and patients' clinical backgrounds, including uterine size, body mass index, and parity, were similar in both groups. Pre-operative uterine prolapse staging (simplified POP-Q) was similar in both groups (mean 2.9 Vs. 2.6). The primary outcome of intraoperative total blood loss calculated by delta hemoglobin was equal between the group treated with local tranexamic acid and the placebo group (-1.62±-1.25 vs. -1.6±-2.4, p=0.982). The incidence of blood loss >500 mL was insignificant between groups (1 vs. 1, p=1). In both groups there was no need for blood transfusions.

INTERPRETATION OF RESULTS

Local prophylactic treatment with tranexamic acid did not reduces the overall total blood loss compared to placebo infiltration.

CONCLUSIONS

This study results revoke the hypothesis that local prophylactic treatment with tranexamic acid reduces the overall total blood loss compared to placebo infiltration. This study highlights the known literature evidence that vaginal hysterectomy is a safe procedure with decreased blood loss and is independent of hemostatic agents. Thus, tranexamic acid should be considered intravenously in cases of increased bleeding during elective benign vaginal hysterectomy.

107 - DEVELOPING AN EXPERT CONSENSUS DOCUMENT ABOUT "CHILDBIRTH AFTER AN ANAL SPHINCTER INJURY" USING DELPHI METHODOLOGY

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INTRODUCTION AND AIM OF THE STUDY

In women, the most frequent cause of anal sphincter damage is Obstetric Anal Sphincter Injuries (OASI).
OASI are the most common cause of anal incontinence in young population. Its incidence ranges between 0.5-11% [1]. Considering an average incidence of 5%, we could estimate around 100,000 OASI/year in Europe.
60% of these women with a history of OASIS will have a subsequent pregnancy and delivery [2]. Current evidence on childbirth after an anal sphincter injury is extensive but heterogeneous and strong conclusions are limited. Some studies have reported a higher risk of anal incontinence development and greater deterioration of pre-existing symptoms in case of vaginal delivery, while other authors have shown no significant impact. Elective cesarean section was not found to be associated with a risk reduction [3].
In this context, is imperative to give a proper information to the patient about pros and cons of vaginal and C-section delivery to aid shared decision making about the route of the delivery after an anal sphincter injury.
The objective of the project was to produce a document including recommendations for all professionals involved in pregnancy and childbirth care about the route of delivery after anal sphincter injury.

MATERIALS AND METHODS

In June 2021 a multidisciplinary (Urogynecologists and Coloproctologists) research group was created with the following question as a starting point for the research: *"What route of delivery can we recommend in pregnant with a history of anal sphincter injury?"*.
The initial idea was to create Systematic Review Document with practical evidence-based recommendations in this situation. However, the initial literature review showed that a systematic review was impossible due to the lack of randomized studies and strong scientific evidence. The research group, therefore, unanimously agreed to carry-out a non-systematic review of the literature and a Consensus Document using the Delphi methodology.
At that time, a coordination group, consisting of the 7 initial members of the project, was defined and a group of experts was recruited. Experts were defined as having both clinical and research experience on childbirth and/or anal sphincter injuries and/or anal incontinence.
Based on the non-systematic review, a 20 items survey was designed, which was electronically sent to the expert panel using a Google Forms form and answered anonymously. For each statement, members were asked to choose their level of agreement/disagreement on a 6-point Likert scale, from 0 (totally disagree) to 5 (totally agree).
It was pre-defined to carry out a total of three rounds, since the non-agreement in some items would be considered a result itself. Consensus was considered to be reached if 75% of the answers were concentrated into the two extreme values of the rating scale (0-1 or 4-5).
The frequency of the ratings was calculated after each Delphi round to determine whether consensus was reached and to provide statistical feedback to experts. Those questions on which consensus was reached were not included in the following rounds. In the third (last) round, experts were invited to suggest any additional comments that could be submitted to the coordination panel at the end of the survey.
The coordination group wrote a summary of the results and it was sent to all the expert members for review and final approval. The expert review of the conclusions provided, on some points, comments of disagreement. Considering these comments as an evidence level III ("Expert opinion"), it was decided to carry out a specific bibliographic review of the discrepant points in order to include the result in the consensus document. The coordination group carried out this review.
The final document was reviewed and approved by the entire expert panel, the Association of Midwives and a Patient Association for Incontinence.

RESULTS/ INTERPRETATION OF RESULTS/ CONCLUSIONS

1- General considerations

Consensus to

- *Inform that the risk of a recurrent OASI is higher (RR:3-6) (80,65%)*
- *Inform that a recurrent OASi increases the risk of anal incontinence even at long term (RR 1.5) (90%)*
- *Inform that the main objective should be to avoid anal incontinence symptoms appearance or worsen. (96,67%)*
- *Recommend to consider patient's delivery route preferences (90%)*

- Recommend to inform about vaginal delivery and C-Section risks and let pregnant women to decide the route of delivery (93,33%)

2- Delivery Route

Consensus to

- Not recommend a vaginal delivery in all cases (80%)
- Not recommend a C-Section in all cases (80%)
- Recommend to avoid an instrumental delivery (86,67%)
- Recommend, in case of instrumental delivery, to prioritize the use of vaccum (80%)
- Recommend a C-Section in patients with moderate to severe anal incontinence symptoms (Wexner <9/ St Mark's >8) (76,47%)
- Recommend a C-section when, during labour, a complicated or instrumental delivery can be suspected. (87,1%)
- Recommend a C-Section in case of macrosome suspicion (80%)
- Recommend a C-Section in case of secondary repair (80%)

Not consensus to

- Recommend a C-Section if previous OASi was a IIIC or IV grade (70,59%)

3- Episiotomy

Consensus to

- Recommend that, if during a vaginal delivery, an episiotomy is needed, it must be a mediolateral episiotomy (93,33%)

Not consensus to

- Recommend systematic episiotomy if vaginal delivery is decided (61,76%)

4- Diagnostic test results

Consensus to

- Recommend a vaginal delivery in asymptomatic patients with a normal endoanal ultrasound and a normal anorectal manometry (80%)

Not consensus to:

- Recommend a vaginal delivery in asymptomatic patients without any diagnostic test (70,59%)
- Recommend a vaginal delivery in patients with only a normal endoanal ultrasound (52,94%)
- Recommend a vaginal delivery in patients with only a normal anorectal manometry (50%)

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108 - SYNERGY OF NON-INVASIVE ER:YAG SMOOTH® LASER AND HIGH-INTENSITY TESLA MAGNETIC STIMULATION (HITS®) TREATMENT OF URINARY INCONTINENCE IN WOMEN

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INTRODUCTION

Since 2015 a number of clinical studies have shown the advantages of different energy-based devices (EBD) for the treatment of (stress) urinary incontinence (S(UI) and genitourinary syndrome of menopause (GSM). Most studies have referred to the use of nonablative Er:YAG SMOOTH® laser for the treatment of SUI and mixed urinary incontinence (MUI), and both Er:YAG and CO2 lasers in the treatment of GSM.

METHODS AND RESULTS

Head-to-head studies showed that Er:YAG SMOOTH® laser improves urinary incontinence in women as effectively as in tension-free vaginal tape (TVT) and transobturator (TOT) procedures. For patients with mixed urinary incontinence (MUI), some in the TVT and TOT groups showed exacerbation. However, all patients in the laser therapy group tended to improve. Vaginal erbium laser (VEL) safely and effectively improve overactive bladder symptoms score (OABSS) compared to common pharmacotherapies, anticholinergics and β3-adrenoceptor agonists, however through a different mechanism. VEL improves blood flow in the bladder, urethra, and vaginal wall reducing OABSS without adverse effects typical for medication. The comparative study showed that Er:YAG SMOOTH® delivers an equally significant reduction in SUI, both in hysterectomized and non-hysterectomized patients. Faraday's law of magnetic induction, whereby a magnetic field pulse induces electrical activity that depolarizes the nerves and causes selective supramaximal contraction of the pelvic floor muscles. Repeated activation of the terminal motor nerve fibers and the motor end plates will tend to build muscle strength and endurance. High-intensity Tesla magnetic stimulation (HITS™), enables fast and easy strengthening of the pelvic floor muscles without effort. The results suggest a statistically significant reduction in the frequency of urinary leakage in all three types of urinary incontinence ($p = 0.001$). Magnetic stimulation has a positive impact on reducing the symptoms of urinary incontinence and improving quality of life.

CONCLUSION

The combination of these two techniques may work in a synergistic manner to boost the overall effect of pelvic organ support.

109 - SETTING UP A DAY CASE PELVIC FLOOR SURGERY SERVICE

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BACKGROUND
Pelvic floor surgery is a commonly performed area of gynaecology surgery and accounts of a large proportion of postoperative gynaecology admissions. Day cases pelvic floor surgery including vaginal hysterectomy is a subject of debate and in need of more evidence demonstrating safety and acceptability. For the past 5 years, our unit has safely implemented same day discharge for all our pelvic floor and vaginal hysterectomy procedures. This is a review of the outcomes and a guide of how to set up a daycase pelvic floor surgery service.

METHODS
A retrospective service evaluation of our last 100 patients was undertaken and discuss the pillars of setting up the service as well as the pitfalls to avoid.

RESULTS
Due to the pandemic the number of surgeries undertaken were low. Complete records of 71 pelvic floor surgeries were obtained and reviewed. These were undertaken between June 2020- March 2022 by a single consultant at a district general hospital. 88% (63) of patients were sent home on the same day with 7% (5) discharged the following day, 3% (2) discharged after 2 days and only 2% (1) discharged 3 days later. Reasons for overnight admission anaesthetist preference, raised NEWS2 score postoperatively and social reasons.

CONCLUSIONS
Pelvic floor surgery can be successfully performed as a day case surgery for the majority patients. It is important to incorporate a multidisciplinary team approach to planning day case pelvic floor surgery and to ensure the patient's expectations regarding same day discharge are preoperatively addressed. Patients should be appropriately counselled preoperatively to ensure their expectations are paralleled. There is no increase in postoperative complications or adverse outcome associated with day case surgery.

110 - USE OF HETEROLOGOUS SYNTHETIC MATERIALS IN UROGYNECOLOGY

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INTRODUCTION

The intention to obtain good results in reconstructive surgery of genital organs in the pelvis and to reduce the recurrence rate prompts surgeons to adopt various surgical procedures using heterologous synthetic materials. The increase in the use of transvaginal mesh has been accompanied by a surge in mesh-related adverse events and complications. As a result, the Food and Drug Administration (US) and the EU regulatory commission have made an effort to regulate the production of mesh material products for corrective urogynecological surgery. On the other hand, the International Urogynecological Association (IUGA) and the International Continence Society (ICS) produced a joint report on the terminology and classification of complications arising from the use of prostheses, meshes and/or grafts in reconstructive pelvic surgery in women, as well as recommendations for evaluation and procedure for complications related to their use in the reconstructive surgical procedure.

OBJECTIVE

Evaluation of complications when using mesh in reconstructive pelvic surgery with reference to minimally invasive procedures for the treatment of stress urinary incontinence.

MATERIAL

Female patients operated on for urinary stress incontinence with or without certain prolapse of the genital organs during a period of three years.

RESULTS

We analyze our experience with an obturator-transvaginal tension-free mesh, applied for the treatment of urinary stress incontinence in 124 patients. During the three-year follow-up period, we noted erosion in 2 patients (1.6%) and permanent groin pain in 0.8% (one patient). In the evaluated period, we had no bladder injuries and no reoperations for recurrence of stress urinary incontinence.

CONCLUSION

Our results on mesh complications and the efficacy of the TVT-O procedure for surgical treatment of urinary stress incontinence are comparable to those reported in the literature.

111 - ULTRASOUND EXAMINATION: USE OF THE TRANS-LABIAL 3D/4D TECHNIQUES IN PELVIC FLOOR DISORDERS

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INTRODUCTION AND AIM OF THE STUDY

When a physical examination does not seem to be conclusive, the 3D trans-labial ultrasound pelvic floor reconstruction may be helpful in a clinical context, assisting the clinicians in identifying the compartment implicated in the prolapse. Modern 3D technologies combined with trans-labial ultrasonography make it feasible to characterize and accurately comprehend the pelvic floor structure and anatomical surface implicated in prolapse. This method of diagnosing pelvic floor dysfunction may improve the accuracy of pelvic floor evaluations and direct pelvic reconstructive surgeons towards more suitable surgical tailoring techniques. The use of trans-labial ultrasound with 3D reconstruction enables the clinical evaluation of female pelvic organ prolapse to go beyond some limitations and confounders, particularly in an outpatient setting. These limitations include bladder and rectal filling, levator co-activation, and the duration of the Valsalva manoeuvres, all of which may change the clinical impression, particularly in some specific cases where identifying the prolapsed vaginal compartment is not always simple and obvious. Additionally, through simulation and the study of pelvic planes, the 3D reconstruction and the volume acquired by ultrasound allow for a subsequent processing to define the best therapeutic and surgical approach while the patient is not present. This processing can also be used as a teaching and training tool for medical professionals in training in pelvic floor surgery and diagnosis.
The aim of this study is the report the possible application of 3D/4D trans-labial ultrasound examination of pelvic floor in selected ase of differential diagnosis in pelvic organ prolapse and it relapse.

MATERIALS AND METHODS

As the patient entered the urogynecology facility: An ultrasound of the pelvic floor and a urogynecological examination were carried out: The patient received surgical care, and the same team followed up with vision and ultrasound.

RESULTS

A 67 years-old woman referred to our department of Urology Gynecology for pelvic pain, fullness and pressure in pelvis area, and pain in lower back. In addition she refered the insorgence of stress urinary incontinence for at lest four years. The patients underwent at the age of 46 years-old to the following surgical procedure due uterine prolapase and ovarian cystis: colpohysterectomy, unilateral right adnexectomy, cystopexy, urethropexy and rectopexy. The following follow-up was regular without the insurgece of pelvic organ prolpase (POP) recurrence for five years. In her medical hysteroy she reported two pregnancy (two natural vaginal dellivery, witout the application of forceps or obstetric vacuum cup, but with medio-laterla episiotomy), high blood pressure and hypercholesterolemia. The patient did not use hormone replacement therapy after menopause. The gynecological consultation was performed in order to evaluate the possible insurgence of POP recurrence 20 years after the first treatment for uterine prolapse and fascal recostructive surgery. The phisical examination highlited the possible involment in pelvic floor dehiscense of vaginal cuff and anterior vaginal wall. The gynecological examination did not allow to exclude whether only the anterior wall (grade II cystocele in accordence with POP-Q classification) was involved in the recurrence of prolapse or if it was a multicompartmental prolapse of the bladder and vaginal cuff of grade II according with POP-Q classification. For this reason, in order to clarify the real characteristics of prolpase and organize the better approch for recostructive surgery, the use of transperineal ultrasound 3D/4D examination of the pelvic floor has been proven to be an excellent tool which deomnstrated the only prolapse of anterior vaginal wall, witount the involvmnet of vaginal cuff. In addition a grade I prolapse of posterior vaginal waal was demonstrated. In addition, urodynamic test reported an urinary obstruction due the cystocele and a hypovalid flow. The patients underwent cystopexy in according to Kelly technique, and rectopexy in October 2022. Post-surgery folow-up and the ultraosund with 3D/4D rectostructive technique demonstrated the complete the correction of the prolapse and the remission of stress urinary incontinence.

INTERPRETATION OF RESULTS

As we reported in our experience, due to its low cost, ease of use, high performance, and real-time information delivery, ultrasound appears the ideal imaging method in uro-gynecology, especially in the differential diagnosis of particular dubious cases. This is clear when there is a competition for space between various pelvic organs; in other words one compartment may mask prolapse development in another.

CONCLUSIONS

The 3D/4D translabial examination my be useful in the diagnosis of correct diagnosis of pelvic organ prolapse, when the clinical examination did not appear diriment in identification of correct compartment is involved in prolapse. This technique may increase the surgical correction, and improve the weelbeing of patients.

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112 - TRANSVAGINAL TREATMENT OPTIONS FOR WOMEN WITH UTERINE PROLAPSE

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INTRODUCTION AND HYPOTHESIS

Uterine prolapse is a common health problem and the number of surgical procedures is increasing. The treatment of pelvic organ prolapse (POP) in elderly women can be challenging. The goal of reconstructive surgery is to restore organs to their original position. Vaginal hysterectomy (VH) is the preferred surgical procedure worldwide, but uterus-preserving alternatives including the Manchester procedure (MP) are available. Hysterectomy has some complications that could devastate the life of patients. Manchester operation is a technique for the correction of uterine prolapse especially at patients who deserve to preserve their uterus. At some patients with exteriorized genital prolapse with vaginal procidentia colpohysterectomy according to Rouhier or colpoclesis are choice of treatment.

OBJECTIVES

We mainly aimed to evaluate and compare the different types of procedure as a treatment for uterovaginal prolapse in patients in N Macedonia.

MATERIAL AND METHODS

In this retrospective, controlled study, 44 out of 150 consecutive patients with symptomatic uterovaginal prolapse were treated with uterus conservation (Manchester procedure), 97 with vaginal hysterectomy and 9 with colphysterectomy by the same surgical team at University Clinic of Gynecology and Obstetrics Skopje, N Macedonia during the period from January to November 2022. Intraoperative time and blood loss were recorded during the operative procedure. All patients were invited to the follow-up visits at 6th weeks and 4th months after the operations. The C point level, total vaginal length and QoL (quality of life) scores were evaluate at follow up visits. Pre-operative patient characteristics, operative and post-operative events and follow-up results were recorded.

RESULTS

No significant differences emerged in demographic and clinical characteristics between the patients in the group. Mean operating times and intra-operative blood loss were significantly less after Manchester procedure ($p<0.001$). Patients treated with colphysterectomy had higher blood loss, and the operating time was longer than patients treated with reconstructive surgery. At follow-up success rates were similar in the two groups trated with MP or VH in terms of uterine and upper vaginal support (100%). No difference were found about TVL at patients treated with MP and VH. Patients treated with colphysterectomy had significantly shorter TVL. No one required surgery for recurrent vault or uterus prolapse at the patients treated with MP or VH, and one patients treated with colphysterectomy had recurrence 4 months after the operation. All patients were satisfied and would repeat surgery again.

CONCLUSIONS

Surgeons must provide adequate counseling and preoperative evaluation before proceeding corrective operative techniques for vaginal prolapse. Manchester Shirodkar operation provides a secure anchorage, restoring an anatomical vaginal axis and a good vaginal length. It can be safely offered to women who request uterine preservation. Whether the uterus was preserved or not, patients had similar results in terms of prolapse resolution, urodynamic outcomes, improvements in voiding and sexual dysfunctions. Colpocleisis should remain an exceptional approach, but could be offered to sexually inactive women of advanced age after thorough discussion and patient consent. This procedures has longer operating time and more blood loss.

113 - OBSTETRIC AND VIOLENCE AND CONSENT FOR EPISIOTOMY. WHAT DO WE REALLY KNOW?

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INTRODUCTION AND AIM OF THE STUDY

Throughout pregnancy and during delivery every woman should be offered a quality health care and support. There is strong evidence that a significant percentage of women is lacking of access to quality health services, or is mistreated by health care providers, either with over medicalisation of normal pregnancies and birth and unnecessary use of non-evidence based interventions, either due to inadequate resources and below evidence based standards. Our aim is to unravel the current complicated status and implications of obstetric violence and consent for medical intervention during pregnancy and delivery.

MATERIALS AND METHODS

We reviewed all recent publications in literature, medical guidelines, International Health Care bodies and national legislations, world press and media resources regarding this issue.

RESULTS

Obstetric violence is defined as a violation of a woman's human rights, an act of disrespect and abuse, as a suboptimal care during pregnancy and labour, incorporating interactions or facility conditions considered by common sense or experienced as humiliating or undignified [1]. These can form a typology of mistreatment including physical, verbal, sexual abuse, stigma and discrimination, lack of inform consent, failure to meet professional standards of care (poor communication, loss of autonomy, lack of resources and policies) etc. Obstetric violence runs wide and deep in the maternity services in many countries, as several studies have reported a prevalence from 20% up to 85%, while first delivery and foreign ethnicity are noted as main risk factors. Research has also shown that verbal and physical abused are more likely to occur 30 min before and 15 min after delivery. In regards to episiotomy, it is considered as a surgical intervention and a voluntary inform consent is a moral and legal prerequisite. Nevertheless, many studies have shown that a significant percentage of patients (35%- 75%) have underwent an episiotomy without consent. In most cases episiotomy is viewed by women as a stressful experience, and the patients' consent had rather the form of compliance under pressure by health care providers on site [2].

INTERPRETATION OF RESULTS

Obstetric violence is a certain type of womans' rights infringement involving equality, information, dignity and integrity, health and reproductive autonomy. It can occur in both private and public clinical practice and can be regarded as a health system and/or a wider, social form of violence against women, in three levels: institutional, structural and policy level. In many cases such disrespectful and abusive behaviours are neglected and considered as normality. It may have several, serious consequences affecting initially mothers, newborns and the family (increased mortality, psychological impact, family bond impairment), the health care providers (increased stress and devastation, lack of self-esteem, reduced productivity), as well as the health care system and the community (reduced efficiency, worsened health marker rates, increased financial burden). It is also depicted by several studies, that there is a wide variety of clinical practice, approach and opinion on episiotomies and a lack of standardised training and recording system by midwives and doctors [3].

CONCLUSIONS

Defining, recording and analysing obstetric violence is a complex challenge. Several factors can promote and amplify this phenomenon effect: initially on a personal and social level (normalisation of disrespect and abuse behaviours, possible financial restrictions, lack of social involvement), furthermore on health services (prejudices, lack of training and respect, lack of protocols, guidance and monitoring) and finally on national legislation and policies (lack of legal principals, procedures and/ or inability of implementation). As informed consent should be obtained before any surgical intervention and more specifically before performing an episiotomy, developing communication, principal and opinion exchange, and building trust during antenatal period, as well as individualised approach to each patient, is strongly recommended. Since 2014 WHO states that every woman has the right to the highest attainable standard health, and recommends a cohort of actions towards the prevention and elimination of disrespect and abuse during facility-based childbirth.

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114 - "A PELVIC PAIN TASK FORCE? AND WHAT DOES IT DO?"

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INTRODUCTION

Chronic pelvic pain (CPP) is a relatively common health problem, impacting 4-16% of adult women and 5-10% of adult men globally.[i] The management of these cases are often problematic since they do not represent a homogenous population and the complexity requires specialised assessment which usually calls for interdisciplinary communication and cooperation. In our work we introduce the first multi- and interdisciplinary CPP Task Force of Hungary (and Eastern-Europe) and give a detailed summary of our experience of 3 years.

METHODS

The CPP Task Force of Semmelweis University (Budapest, Hungary) was founded in 2020 with 9 medical professionals, today we are a group of 33. We have taken the case of more than 120 patients, here we shall summarize 80 of them. (All of our patients filled out our questionnaire and pain diary and all of them were examined by at least two clinician (urologist, gynaecologist, etc.) and one psychologist. The cases are all discussed live within the team where we decide about further diagnostics and therapy.)

RESULTS

Of the 80 cases (avg 35y; 18-78) 54 was female, 26 male. 60 of them (75%) has been struggling with pain for more than a decade and all of them tried to seek help before (previous medical visits: avg 3,47; 1-16) - but for no avail. The pain level (on a visual analogue scale - VAS) vas in 6.6 average (2-10). Half of them could not identify the initiating factor, 26 (32%) linked it to infection or invasive medical intervention. The most common provoking factors were physical activity (12%), sexual intercourse (11%), mental stress and a full bladder (10-10%). The most frequent diagnoses were pudendal neuralgia (10 cases, 12,5%), interstitial cystitis (9, 11%), endometriosis or adenomyosis (6, 7,5%) but in most of the cases we could not identify classical medical conditions and treated them for their chronic pain syndrome. 67 of our 80 patients (83,75%) experienced significant change and improvement (on the VAS and QoL scales) with management the task force advised: 16 (24%) received principally psychotherapy, 11 (16,4%) was treated by urologist, 9 (13,4%) by physiotherapist, 8 (12%) by gynaecologist, 5-5 (7,5-7,5%) by proctologist and rheumatologist. 3 (4,5%) was managed by dermatologist and one (1,5%) by our neurologist. 9 (13,4%) was handled (with pharmacotherapy, nerve blocks or else) by our anaesthesiologist and pain specialist. Here we have marked only the leading specialist, however more often then not there are two or more medical professionals working on a case at the same time.

CONCLUSION

Chronic (pelvic) pain and pain syndromes in general require a completely different understanding then what we as medical professional are used to. There are very few cases which can be solved by a single discipline and even less where there is no need for a psychologist or a pain specialist. Thus, active multidisciplinary cooperation, constant communication and being up-to-date on modern pain therapy can guarantee any kind of chance of success with this patient population.
After analysing these and numerous other factors, thorough physical, radiological and instrumental examinations, the cases were discussed by the CPP task force and – after reaching a diagnostic conclusion – we proposed a way of management and in all cases reached some level of solution

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115 - ULTRASOUND ANALYSIS OF THE GENITAL HIATUS IN NEW MOTHERS FROM SPONTANEOUS VAGINAL DELIVERY. SPONTANEOUS VAGINOPERINEAL TEARS VS RIGHT MEDIOLATERAL EPISIOTOMY: A PILOT STUDY

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STATE-OF-THE-ART AND AIM OF THE STUDY:

Obstetric tears and episiotomies on the pelvic hiatus, which often induce short- and long-term onset of pelvic floor dysfunctions (e.g., prolapse of the pelvic organs, urinary incontinence, fecal incontinence, and sexual distress) are a matter of scientific debate. Despite existing literature suggests an association among spontaneous vaginal delivery and increased genital hiatus area and diameters, there is still no clear consensus about the consequences of obstetric tears and episiotomies on such parameters.

The goal of this pilot study is to overcome this lack of knowledge analyzing the antero-posterior and transverse diameters and the genital hiatus area after spontaneous vaginal delivery in two groups of patients, the first with spontaneous vaginoperineal tears (VP) and the second undergoing right medial lateral episiotomy (EMLD).

MATERIALS & METHODS:

We enrolled a total of 21 women in the period October - December 2021, subdivided in two groups as follows: i) VP group with 11 patients (mean age 30±3.9 years), among which 7 with I and II degree lacerations and 3 with III degree A lacerations; ii) EMLD group with 10 patients (mean age 35±4 years).

All patients were primiparous with normal-course and low obstetric risk pregnancy. Each patient underwent transperineal ultrasound examination to evaluate the genital hiatus, beyond to urogynecological evaluation six months after delivery.

RESULTS AND CONCLUSIONS:

All patients showed overlapping body mass index, weight gain during pregnancy, gestational week and neonatal weight (p=0.005), but not age. During the study, no patients reported urinary and/or faecal incontinence, superficial and/or deep dyspareunia.

Six months after delivery, ultrasound examinations performed in patients of both groups did not report statistically significant differences in terms of antero-posterior (p=0.62), latero-lateral (p=0.51) and genital hiatus area (p=0.75) diameters. Moreover, 3D ultrasound imaging of the anus showed the integrity of the internal and external anal sphincter, with no signs of avulsion of the elevator of the anus.

To conclude, our results suggest no statistically significant difference in both the VP and EMLD groups regarding the size of the genital hiatus at six months after delivery.

116 - COMING TOGETHER - A BEGINNING. KEEPING TOGETHER - A PROGRESS. WORKING TOGETHER - A SUCCESS. THE THREE STAGES OF BUILDING A PELVIC PAIN TASK FORCE

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INTRODUCTION

Chronic pelvic pain (CPP) is a relatively common health problem, impacting 4-16% of adult women and 5-10% of adult men globally.[ii] The diagnostic and therapeutic management of these cases are often problematic since they do not represent a homogenous population and their complexity requires specialised assessment which usually calls for interdisciplinary communication and cooperation. Our work details the development of the first multi- and interdisciplinary CPP task force of Hungary (and Eastern-Europe).

METHODS

The CPP Team has been founded by 9 clinicians (led by a urologist) of Semmelweis University (Budapest, Hungary) who then recruited other specialists from other disciplines and advertised the team within the university. The taskforce first met biweekly, then weekly personally or via zoom. The team members did not receive financial compensation for the extra work, therefore it should have been challenging to find and keep team members but – since they all understood the uniqueness of their role – it wasn't. The team created it's own questionnaire and assessment tools and, and although the members examined the patients individually we discussed them jointly and chose the therapeutical management together.

RESULTS

Now we are a group of 33 medical professionals and discussed more than 120 patients in our short history of 38 months. Implemented many types of nerve blocks, different types of neuromodulation, initiated acupuncture, pharmaco-, psycho- and physiotherapy, gave dietary advice and performed a lot of surgery – from prolapse operations to pelvic tumor excisions. Started a pain related psychological and STI study, wrote case studies and held presentations and became a breathing part of the Pelvic Pain Collaboration of ICS.

CONCLUSION

Since chronic pelvic pain is often a highly complicated issue that can rarely be solved by a single medical professional, and many clinicians lack experience and confidence with this group of patients[iii] the only way of management is through a multidisciplinary pelvic pain task force. Thanks to collaborative cooperation patients will not be passed back and forth between different teams or same specialities but handled by one coworking group.

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117 - INFLUENCE OF POLYPROPYLENE MESH DEGRADATION ON TISSUE INFLAMMATORY REACTION

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Polypropylene degradation in vivo appears as mesh surface cracking and peeling. This aging process of the mesh, resulting in the lack of bio-stability, contradicts the requirement of biocompatibility. However, to date, it is still not clearly established how much this mesh degradation influences the local tissue response with subse- quent clinical consequences. This study aims to find out whether mesh degradation is correlated with elevated inflammatory tissue reaction through analyzing 100 human PP meshes explanted from the pelvic floor. A degradation classification method, based on standard pathological H&E stained slides of the explanted mesh via light microscope, was developed to classify the mesh degradation into four classes (no, mild, moderate and severe degradation). The peri-filamentary tissue inflammatory reaction was analyzed by scoring the expression of the most common cell markers for the innate immune reaction: CD68 as marker for macrophage, CD86 for M1 sub- type, CD163 for M2 subtype, CD3 for T-lymphocyte and CD15 for neutrophil granu- locytes. The correlation between immune cell expression, degradation classification and time of implantation of the meshes are evaluated with Spearman-Rho-Test. Mesh degradation worsens significantly ($p < .001$) with longer time of implantation. The increasing tendency of CD68 expression by mesh with higher degradation class indicates that the number of macrophages increases with worsening mesh degrada- tion. The significantly increased expression of CD163 and CD3 cell by severely degraded mesh demonstrate the increased number of M2 and T-Lymphocyte when mesh degradation becomes severe. None of the inflammatory cells show the usual declining expression with longer time of implantation. The result of this study sug- gests that the degradation of PP mesh results in an elevated local inflammatory reac- tion in female pelvic floor. A material with better bio-stability for mesh implant in pelvic floor is required.