

approaches. The aim of this study was to compare the functional outcomes and urodynamic findings after laparoscopic sacrocolpopexy (LSC) and trocarless transvaginal mesh system (TTMs) in patients with advanced apical pelvic organ prolapse (POP).

Materials and methods: This is a single-centre prospective study. We included women with symptomatic and POP stage II-IV, who underwent LSC and TTMs. All surgical procedures were performed by two senior surgeons. The preoperative evaluation included: history, clinical examination, urodynamic testing, translabial ultrasound. Women were followed up at 1,3,6,12 months after surgery and annually by history, examination, and urodynamic test at 6 months after surgery. Bladder Outlet Obstruction (BOO) was defined according to Blaivas-Groutz nomogram [Maximum flow (Q_{max}) ≤ 12 mL/s and detrusor pressure at Q_{max} (P_{det}Q_{max}) ≥ 20 cm H₂O in the pressure-flow study. Detrusor underactivity (DU) was defined according to Projected Isovolometric Pressure (PIP) index, that it was calculated as Q_{max} + P_{det}Q_{max} (normal range 30–75 cmH₂O). Detrusor overactivity (DO) was defined according to current recommendations as involuntary detrusor contractions during filling cystometry, of variable duration and amplitude. To evaluate the urinary symptoms we used Urogenital distress inventory short form (UDI-6) questionnaires before and 6 months after surgery. Statistical analysis: the categorical data are presented in the form of absolute numbers and their corresponding percentage values. The Statistical analysis: McNemar test, χ^2 tests, the Wilcoxon signed ranks test, $p < 0.05$.

except for the Q_{max} and the maximum cystometric capacity (Table I). Detrusor overactivity and BOO disappeared in 82% and in 92% of patients after LSC, and in 82.1% and 89.5% of patients in TTMs respectively without difference between the 2 groups. The DU persisted in 22% and of 50% women in LSC and TTMs group respectively. The success rate of stress urinary incontinence after LSC was higher than TTMs (72.3% vs 43% $p = 0.005$). The most common pre-operative symptoms were voiding symptoms in both groups, they resolved in 93.6% and 86.3% of patients in LSC and TTMs respectively. The OAB disappeared in 72% and 87% of women in LSC and TTMs. The UDI-6 showed an improvement without differences between two groups ($p = 0.08$). Apical prolapse was corrected to stage 0-I in 100% of cases by LSC, and in 92.4% by TTMs.

Discussion: The urodynamic finding showed that both the LSC and TTMs in women with advanced apical POP provide good functional outcomes, with higher success rate of SUI in LSC approach.

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Efficacy and safety of UpHold Vaginal Support System in transvaginal surgery of pelvic prolapse, with personal technique modification

V. Fioravanti, A. Piccirilli, A. Cassani, M. Signoretti, F. Romantini, M. Ferritto, G. Paradiso, C. Vicentini (*L'Aquila*)

Aim of the study: The aim of the study is to evaluate the efficacy and safety of the UpHold[®] LITE Vaginal Support System with Capio SLIM[®] for the correction of stage 3 or 4, symptomatic, anterior vaginal prolapse with or without apical descent.

Materials and methods: In this retrospective and monocentric study, conducted from November 2015 to April 2018, we enrolled 31 patients. All women experienced surgery with positioning of the UpHold[®] LITE Vaginal Support System with Capio SLIM[®] for a symptomatic anterior vaginal prolapse with or without apical descent, stage 3 or 4, according to the POP-Q staging system. 9/31 patients (29%), in order to better support the uterus, underwent surgery with modified approach. The surgical approach was modified moving the two propylene arms anteriorly around the cervix, itself crossing one another and carrying the right arm to the left side and vice versa, with the purpose of re-create the "cervical ring". Primary endpoint was the anatomical correction of the prolapse, success was defined as POP-Q ≤ 2. Secondary end-point was to evaluate patients quality of life by analysing their subjective symptoms with questionnaire administered before the surgery, after six month and one year. Vaginal and sexual symptoms were evaluated with the International Consultation on Incontinence questionnaire on vaginal symptoms (ICIQ-VS), QoL was assessed with the Prolapse Quality of Life questionnaire (P-QoL) and to define subjective outcomes all patients completed the Patient Global Impression of Improvement score (PGI-I). The average follow up was one year.

Results: Mean patients age was 68 years. 13 (42%) women had previous hysterectomy and 5 (16%) had previous surgery for anterior prolapse. 4 (13%) patients experienced a concomitant hysterectomy for a large uterine volume. No intraoperative complications occurred, 3 (10%) patients experienced acute retention of urine after surgery spontaneous resolved during first week. We achieved excellent anatomical results at one year: no mesh extrusion, stage 1 or 2 asymptomatic prolapse in 6 patients (19%) that required no further repair, 8 patients (26%) experienced de novo stress urinary incontinence (SUI) resolved positioning of a midurethral sling. Statistically significant improvements were observed in the ICSQ-VS and P-QoL questionnaires during follow-up. The PGI-I score shows that 22 patients (71%) considered themselves cured or improved, 7 (22%) unchanged and 2 (7%) experienced worsening of symptoms.

Table I The preoperative and postoperative urodynamic findings and clinical data

	Preop VLP	Preop TTMs	P value	Postop VLP	Postop TTMs	P value
Age (years, mean±SD)	62.5±7.5	61.4±7.3	>0.05			
Body mass index (kg/m ² , mean±SD)	26.1±3.2	26.3±3	>0.05			
Parity (median, range)	2 (1-5)	2 (1-5)	>0.05			
Menopause n (%)	41 (87.2)	42 (95.5)	0.166			
Uroflowmetry						
Q max (mean±SD; ml/sec)	12.3±3.7	12.8±2.5	0.369	23.9±3.4	22.4±2.7	0.013
Post voiding residual (>30% of volume) n(%)	34 (72.3)	30 (68.2)	0.664	9 (19.1)	7 (15.9)	0.68
Cystometry						
Low bladder compliance n (%)	31 (66)	18 (19.4)	0.017	8 (17)	8 (18.2)	0.88
Maximum cystometric capacity (mean±SD, ml)	330.46±79	355.18±58.2	<0.0001	378.8±37.4	359±43.3	0.03
Detrusor overactivity n(%) Wet	33 (70.2) 20 (42)	28 (63.6) 20 (45.4)	0.505	6 (12.8) 0	5 (11.4) 3 (6.8)	0.83
Detrusor pressure IDC (mean±SD, cmH ₂ O)	26.0±21.3	25.7±20.9	0.79	11.8±1.4	11.3±2.5	0.88
Valsalva Leak Point Pressure Positive	21 (44.7)	16 (36.4)	0.42	3 (6.4)	8 (18.2)	0.084
Pressure-Flow Study						
Qmax (mean±SD; ml/sec)	12.6 ±6.2	12.7 ±1.7	0.332	24.6±3	23.27±1.5	0.016
Post voiding residual (>30% of volume) n(%)	37 (78.7)	34 (77.3)	0.86	7 (14.9)	5 (11.4)	0.619
Pdet max (mean±SD, cmH ₂ O)	33.01±11	29.1±11.16	0.08	15.18±3.2	15.22±2.7	0.756
Pdet Qmax (mean±SD, cmH ₂ O)	32.3±13	29.57±12.05	0.31	15.2±2.3	13.6±2.7	0.146
PIP <35 cmH ₂ O	9 (19.1)	12 (27.3)	0.358	2 (4.3)	6 (13.6)	0.114
BOO in according to Blaivas and Groutz nomogram	41 (87.2)	38 (86.4)	0.9	3 (6.5)	4 (9.1)	0.6
Overactive bladder n(%)	22 (46.8)	16 (36.4)	0.313	6 (12.8)	2 (4.5)	0.16
Stress urinary incontinence n(%) De novo n(%)	25 (53.2)	18 (40.9)	0.241	13 (27.7) 6 (12.7)	25 (56.8) 10 (18.2)	0.005
Urgency urinary incontinence n(%)	22 (46.8)	27 (61.3)	1.164	0	4 (9)	0.003
Voiding symptoms n(%)	47 (100)	44 (100)	-	3 (6.3)	6 (13.6)	0.247
Storage symptoms n(%)	28 (59.6)	21 (47.4)	0.257	11 (23.4)	12 (27.3)	0.671

Results: In this study were included 91 women (47 in LSC group and 44 in TTMs group). The median follow-up was 21 months (range 8–46 months). After surgery all urodynamic parameters improved in both groups without significant difference between the 2 approaches,

Discussion: Our data showed that mini-invasive trans vaginal technique for the correction of anterior and apical compartment prolapse, using utero-vaginal suspension to the sacrospinous ligaments, is a technique characterized by safety and efficacy. However, further long term results data are needed.

SC34 Transvaginal mesh surgery for pelvic organ prolapse does not affect sexual function at long term follow up

S. Serni, S. Morselli, P. Verrienti, M. Di Camillo, L. Gemma, L. Olivera, M. Gacci, A. Tosto, M. Milanese, V. Li Marzi (Firenze)

Aim of the study: Pelvic Organ Prolapse (POP) may impair sexual health. Though sexual dysfunction in women with POP is associated with reduced sexual arousal and dyspareunia, sexual outcomes have not been fully investigated. Transvaginal mesh repair (TVMR) is a POP therapeutic option, but is debated as a possible cause of worsening in sexual function. Aim of this study is to evaluate pre- and post-operative sexual outcomes in women undergone to TVMR.

Materials and methods: Data coming from sexually active women submitted to TVMR for POP with commercial mesh kits (device whose production has been suspended) were prospectively collected from 2012 to 2016 in a tertiary referral center. POP was measured according to the POP-Q classification. Patients' characteristics, operative and post-operative data were collected. Follow-up was carried out at month 1, 6, 12 and then yearly. Sexual function was measured through FSFI (Female Sexual Function Index) questionnaire. Minimum follow up was 12 months. FSFI score was assessed in these women before and after TVMR. A sub-analysis according to mesh kit used was made.

Results: A total of 52 sexually active women underwent TVMR for stage III or higher POP and had adequate follow-up. Median age was 62 (IQR 56–66), median BMI was 24.7 (IQR 22,3–28,9) and median parity was 2 (IQR 1–2). All patients presented anterior compartment POP and 14 (26,9%) had previous POP surgery. Urodynamic SUI was present in 13 (25,0%) patients. Commercial mesh kits used were Prolift® in 19 patients (36,5%) and Elevate® in 33 (63,5%). Median follow up was 42 months (IQR 22–59). Globally, FSFI was unaltered from TVMR at 12 months and at last follow up ($p = 0.856$). In detail, even if dyspareunia was reported in 1 patient, pain sub score was stable at long term follow up after TVMR ($p = 0.124$). Preoperative characteristics, surgical complications and outcomes were similar between mesh kits ($p > 0.05$).

Discussion: In our experience, global sexual function doesn't seem to be affected by TVMR when performed by expert surgeons. Ageing might be a confounding factor during follow up to establish real mesh impact on sexual function. Dyspareunia was a rare complication in patients during follow-up and pain was not a major complaint.

SC35 Effects of intravesical hyaluronic acid instillations on iatrogenic cystitis

A. Tognarelli, T. Di Vico, J. Durante, E. Russo, D. Pistolesi (Pisa)

Aim of the study: Impairment of bladder urothelial glycosaminoglycan layer and consequent damage to permeability barrier determine penetration of urinary toxins and pathogens through the bladder wall and contribute to the development of bladder pain syndrome/interstitial cystitis (BPC/IC). It is demonstrated that intravesical hyaluronic acid instillations reduce pain and improve quality of life in patients with chronic pelvic pain. In other inflammatory bladder conditions, such as iatrogenic cystitis secondary to radiotherapy for pelvic cancer (actinic cystitis) and intravesical chemo-immunotherapy for non-muscle invasive bladder cancer (chemical cystitis), a urothelial damage is demonstrated. Aim of our study is to compare the impact of instillation therapy with hyaluronic acid on lower urinary tract symptoms (LUTS) and quality of life, in patients with BPS/IC and in patients undergone to pelvic radiotherapy or to intravesical chemo-immunotherapy with Bacillus Calmette-Guérine or Mytomicin C.

Materials and methods: We have evaluated fifty-two patients undergone to bladder instillation therapy with hyaluronic acid in our centre in the period 2017–2018. Twenty-three patients (44%) had a diagnosis of BPS/IC, while twenty-nine patients (56%) had developed cystitis after intravesical chemoimmunotherapy (eighteen patients) or after radiotherapy for pelvic cancer (eleven patients). Mean number of instillations was 26.6 in BPS/ICS group and 22.4 in iatrogenic cystitis group. Mean age of patients was 63 years in the first group and 71.7 years in the second group. We have investigated the reduction of urinary discomfort with a Visual Analogue Scale (VAS) and the improvement of quality of life with I-PSS quality of life scale, at baseline and after intravesical instillation. The statistical significance of the two parameters has been calculated with T-test for 2 independent means.

Results: The observed mean VAS improvement was 4.1 points (from 8.2 to 4.1) in the group of BPS/IC patients, and 3.7 (from 6.6 to 2.9) in the group of patients with a diagnosis of iatrogenic cystitis ($p = 0.36$). Also quality of life improved in both groups: 2.8 points in BPS/IC group and 2.3 in iatrogenic cystitis group ($p = 0.31$). No side effects due to hyaluronic acid have been witnessed.

Discussion: Pelvic radiotherapy and intravesical chemo-immunotherapy are often responsible for bothering lower urinary tract symptoms and quality of life worsening, similarly to patients with a diagnosis of BPS/IC. Acid hyaluronic instillations can be considered a reliable and safe therapy to reduce irritative symptoms and improve quality of life also in patients with iatrogenic cystitis. In our experience there are no statistically significant differences between the effect of hyaluronic acid instillations on reduction of LUTS and improvement of quality of life in patients with BPS/IC and iatrogenic cystitis.