



# Technical considerations and mid-term follow-up after vaginal hysterocolpectomy with colpocleisis for pelvic organ prolapse

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**1    Technical considerations and mid-term follow-up after vaginal hysterocolpsectomy with**  
**2    colpocleisis for pelvic organ prolapse**

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23

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27

## **Abstract**

**Objectives:** At the time of controversies on surgical treatment of pelvic organ prolapse, our aim was to describe an effective technique of hysterocolpectomy with colpocleisis for elderly patients not wishing to maintain vaginal sexual activity and present mid-term results including pelvic floor symptoms and quality of life, patient satisfaction and surgical complications using validated scores.

**Study design:** We conducted a retrospective study of all patients having undergone this surgery between June 2006 and June 2016. Women were examined using POP-Q classification and completed validated questionnaires concerning symptoms and quality of life before and after the surgery. Patient satisfaction was assessed using the PGI-I. Complications were described according to the Clavien-Dindo classification.

**Results:** During the 10-year period, 37 women underwent the surgery with a mean age at surgery of 81.2 years (range: 61-93 years). One per-operative complication occurred (a rectal wound that was sutured) and five Clavien-Dindo grade 3b postoperative complications. Three repeat operations were necessary within 15 days; one suburethral sling had to be lowered because of urinary retention; one tension-free vaginal tape had to be unilaterally sectioned for acute urinary retention; and one woman presented a pararectal abscess requiring surgical drainage. The mean duration of hospitalization was 5.5 (+/-4.2) days. The mean follow-up time was 44.1 ( $\pm$ 30.1) months. All symptoms and quality of life scores decreased significantly after the surgery and patient satisfaction was good (PGI-I score=1.55 +/-0.8).

**Conclusions:** Hysterocolpectomy with colpocleisis appears to be an effective treatment with a high level of patient satisfaction among the elderly.

**Keywords:** hysterocolpectomy, colpocleisis, pelvic organ prolapse, symptoms, satisfaction

## **Introduction**

Cumulative incidence of POP surgery affects 11% of women after 70 years old [1]. Three surgical techniques can be used to repair prolapse: the first is prosthetic surgery by the vaginal or abdominal route (sacrocolpopexy) the main complication of which is mesh erosion [2]; the second is the use of native tissue (autologous repair) which results in prolapse recurrence of the anterior compartment in up to 55% of women [3]; and the third is obliterative surgery (colpocleisis) which is an interesting option for the more elderly patient who does not wish to preserve sexual function. One of the main difficulties of evaluating the satisfaction rates and effectiveness of obliterative surgery is the heterogeneity of the surgical approaches (e.g., with or without hysterectomy, and with or without perineorrhaphy).

We describe in this study the technique of vaginal obliteration associating with vaginal hysterocolpectomy (as described by Rouhier) and vaginal vault repair (as described by Campbell) and present mid-term results including pelvic floor symptoms and quality of life, patient satisfaction and surgical complications.

## **Materials and methods**

This was a retrospective single-center study of women who underwent hysterocolpectomy and vaginal vault repair and colpocleisis at the Gynecology Unit of a University Teaching Hospital between June 2006 and June 2016. Since 2006, we have systematically collected patient data including evaluation by a standardized questionnaire. All women who underwent the procedure were examined according to the Pelvic Organ Prolapse Quantification (POP-Q) [4] before the surgery. Women completed validated questionnaires including the French validated short version of the Pelvic Floor Distress Inventory 20 (PDFI-20) which evaluates the severity of POP-related symptoms. The mean for the total PFDI-20 score and the mean score for each sub-questionnaire of the PFID-20 (Urinary Distress Inventory (UDI-6), Pelvic

Organ Prolapse Distress Inventory (POPDI-6) and Colorectal-Anal Distress Inventory (CRADI-8)) were reported [5]. Most of the patients underwent urodynamics before surgery. This exam was carried out according to good practice [6]. The severity of stress urinary incontinence (SUI) was assessed by the French validated Urinary Handicap Measurement (MHU) questionnaire [7]. It is a graduated scale, completed by the physician, including seven subscales (urgency severity, urge urinary incontinence, day-time and night-time frequency, SUI and hesitancy).

#### *Surgical technique*

Following induction of general anesthesia, the patient is positioned in the dorsolithotomy position. A sterile Foley catheter is placed into the urethra.

I- ***Anterior dissection.*** The anterior wall is infiltrated with diluted lidocaine injection. An anterior quadrangular colpectomy is performed so the anterior colpocele can be resected from point Aa to the anterior insertion of the cervix, corresponding to the bladder aspect of the vagina [4] (Figure 1a). Halban's fascia is preserved if possible in order to allow subsequent suburethral plication with 2-0 Vicryl sutures. The dissection is pushed caudally by cutting the edge of the vagina medially to free the suburethral part of the vagina. The vesico-uterine septum is identified and opened and the bladder pushed back with compresses. The bladder is then mobilized by disinserting the bladder pillars. An anterior valve is placed in this space.

II- ***Posterior dissection.*** The posterior colpocele is infiltrated and a rectangular colpectomy performed of the posterior vaginal wall to allow removal of the upper, Douglas portion of the posterior vaginal wall (Figure 1b). The rectum is carefully pushed down, and the Douglas pouch opened. A posterior valve and a wick is placed in this space.

102       **III-*Hysterectomy*.** The uterosacral ligaments on each side are then sectioned individually  
103               and retained by wire to preserve them for the apical fixation of the vaginal vault.  
104       The cervicovaginal pedicles and then the uterine pedicles are sectioned and  
105       coagulated on each side with a thermofusion coagulation instrument. The round  
106       ligaments are individualized on each side, sectioned and retained on wire. The  
107       utero-ovarian ligaments and Fallopian tubes are sectioned and coagulated. The  
108       peritoneum is closed by two continuous sutures of 2-0 Vicryl and extra-  
109       peritonization of the uterosacral and round ligaments is performed to leave them  
110       free for the following steps.

111       **IV-*Sub-urethrovesical plication*.** Suburethral-vesical plication is performed with 3-0  
112               Vicryl in one or two parallel planes to correct the distal part of the anterior  
113       colpocele. The important point here is to take the plication beyond the neck of the  
114       bladder, under the urethra to avoid *de novo* urinary incontinence

115       **V- *Lateral and apical fixations*** (Figure 1c). The two round ligaments are ligated and  
116               fastened well forward under the bladder (Crossen technique) with 2-0 Vicryl [8].  
117       Then both uterosacral ligaments are shortened, crossed and fastened to the vaginal  
118       wall by two sutures of 2-0 Vicryl [9]. The vagina is closed along the sagittal plane  
119       by continuous suture with 2-0 Vicryl.

120       **VI-*Posterior colpoperineorrhaphy*** with rectovaginal fascial plication. The tissues are  
121               infiltrated and a horizontal perineal incision performed. The anal cap and  
122       tendinous center of the perineum are then dissected. The rectovaginal septum is  
123       cleaved and the anus identified before performing a quadrangular resection of the  
124       caudal part of the posterior vaginal wall. Plication of the prerecti fascia is  
125       performed with 3-0 Vicryl. The vaginal angle is reconstituted by myorrhaphy with  
126       one or two sutures of 0 Vicryl and superficial perineorrhaphy with one to three 2-0

Vicryl sutures, and the natural obliquity of the vagina thus restored. The Foley catheter is removed on postoperative day 1.

### *Follow-up*

The women had post-operative examinations at 1 and 6 months and then yearly. They were all contacted by a letter between June 2016 and October 2016 to evaluate their symptoms and postoperative satisfaction. Both the pre- and postoperative questionnaires included the PFDI-20, POPDI-6, CRADI-8 and UDI-6 scores as well as the Pelvic Floor Impact Questionnaire (PFIQ-7) about the impact of the POP-related symptoms [10]. The International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF) questionnaire was added to explore symptoms of incontinence [11]. Patient satisfaction was assessed using the validated Patient Global Impression of Improvement (PGI-I) questionnaire [12].

As this type of surgery is usually performed on elderly and frail women, we used the ADL (Activities of Daily Living) and IADL (Instrumental Activities of Daily Living) scales. These scales were developed to assess capabilities relating to self-care and lifestyle, in order to quantify an approximate level of dependency and frailty [13, 14]. Postoperative complications were described according to the Clavien-Dindo classification [15].

### *Statistical analysis*

We used Chi-2 and Fisher exact tests to compare qualitative variables and Student and Mann-Whitney tests for quantitative variables, with a significance level of 5%. To define risk factors for postoperative satisfaction a binary logistic regression model was constructed comparing very satisfied patients (PGI-I = 1) to others.

Analyses were conducted using Stata 13.0 (Stata Corp., College Station, Texas).

Ethics committee approval was obtained from the French “Comité d’éthique de la recherche en obstétrique et gynécologie” (CEROG 2018-GYN-0601).



## Results

### *Population characteristics (Table 1)*

During the study period, 37 surgical procedures were performed. Eight patients (21.6%) had a history of pelvic surgery including five (13.5%) hysterectomies, two (5.4%) Burch colposuspensions, and three (8.1%) abdominal surgeries for POP (Kapandji and sacrocolpopexy). Thirty-two patients (91.4%) had a grade III cystocele, 25 (71.4%) a grade III uterine prolapse, and 23 (67.7%) a grade II rectocele. Twenty-five patients (67.6%) had SUI before surgery.

### *Surgery characteristics (Table 2)*

All the procedures were performed by two experienced surgeons in pelvic surgery (AF and a Hospital Service Practitioner, GB). The mean operative mean time was 112 mins. Eleven (29.7%) patients were treated for SUI by suburethral sling at the same time. All these patients complained of SUI and had urodynamics to study the intrinsic urethral sphincteric competence and bladder contractility. One intraoperative complication occurred (2.7%): a rectal wound that required suturing. Three (8.1%) new surgical interventions were required within 15 days for serious adverse events. One patient needed her suburethral sling lowered because of urinary retention 5 days after the procedure. She resumed spontaneous urination on postoperative Day 8. On Day 14 another woman developed a pararectal abscess which required surgical drainage. On Day 15 one woman required unilateral section of a tension-free vaginal tape (TVT) for acute urinary retention. Two days after the section, urinary retention was considered fully resolved : postvoid residual volume was < 100 ml with a peak flow rate greater than 20 ml/s. The mean duration of hospitalization was 5.5 +/- 4.2 days.

### *Functional outcomes and satisfaction*

Twenty-nine women returned the survey (78.4% response rate). No difference was noted between responders and non-responders concerning pre- and postoperative characteristics

(Table 3). The mean time between the surgery and the last follow-up and the medical survey were respectively: 16.9 months +/- 22.09 [range 1.03-105.53] and 44.09 months +/-30.15 [range 3.5-120.8]. All validated questionnaires concerning symptoms and quality of life (POPDI-20, UDI-6, CRADI-8, POP-DI 6) decreased significantly after the surgery (Table 4). The mean PGI-I was 1.55 +/- 0.8 [1-4]. The mean postoperative ICIQ-SF score was 2.15 +/- 4.4 [0-17].

The mean PGI-I score was 1.55 +/- 0.8 corresponding to patients “much better” or “better”: PGI-I = 1 (“much better”) for 58.6% (17/29) of responders ; PGI-I = 2 (“better”) for 31.0% (9/29) of responders. The only criterion associated with high satisfaction (PGI-I = 1) was the grade of prolapse [3.7 (0.1) versus 3.1 (0.2) p=0.01] (Table 5).

#### *Urinary incontinence.*

Among the 37 women, 25 (67.6%) presented UI before the surgery. Among these, 11 (44%) underwent concomitant UI surgery. Of these 11 women, two second surgeries (18%) were required for urinary retention: one to lower the sling, and the other to section one arm of the sling. Two women (18%) needed prolonged intermittent urinary catheters for dysuria.

After the colpocleisis, 13 women (35%) described UI but only one (7%) underwent a second procedure. This woman’s preoperative urodynamic testing showed a major sphincter deficiency. The postoperative severe urinary incontinence (ICIQ score = 17) was due to the suburethral plication. A ProACT® sphincter device was implanted but later explanted because of urethral erosion. Retropubic TVT was then inserted and the patient described a 60% improvement in incontinence afterwards.

#### *Complications*

One case of rectal injury occurred which was sutured without postoperative complication (no fever, no rectovaginal fistula) suites and one pararectal abscess that required surgical drainage on day 14. One patient had a prolonged hospitalization due to hypokalemia that was

secondary to postoperative equilibration of diuretic therapy for high blood pressure. None of the patients experienced prolapse recurrence, although one presented a rectal prolapse requiring surgical management.

## **Discussion**

According to this single-center retrospective study in 37 women, we confirmed that colpocleisis is an effective procedure for the treatment of severe POP in women who do not wish to retain coital function.

In our study, 58.6% (17/29) of responders declared to be much better (PGI-I=1) and 31.0% (9/29) of them declared to be better (PGI-I = 2).

In a prospective cohort study including 40 patients, Hullfish et al. found that 95% of their patients were either “very satisfied” or “satisfied” with their surgical outcome which is in agreement with the 89.6% satisfaction rate ( $\text{PGI-I} \leq 2$ ) we found [16]. In a French cohort of 25 women having undergone the same procedure, 56% (14/25) of the patients reported being very satisfied and 32% (8/25) as being satisfied [17].

All the scores used in this study showed significant improvement (POPDI-6, CRADI -8, UDI-6, PFDI-20) after surgery. In a cohort of women having undergone colpocleisis without hysterectomy the PFDI-20 decreased from 121.3 (IQR 80.3-167.2) to 33.8 (IQR 12.5-72.9) at 6 weeks of follow up ( $p < 0.01$ ) confirming our results [18]. In Hullfish’s cohort, 35% of the women had concomitant surgery for SUI which was similar to our cohort where 44% of the patients had a midurethral sling implanted for preoperative incontinence (11/25) [16].

Eighteen percent (2/11) of the women in our study required sling revision surgery for urinary retention and 18% (2/11) required intermittent urinary catheterization. Similarly, Fitzgerald and Brubaker reported that 14% of patients who underwent colpocleisis together with fascial sling placement required sling revision surgery [18]. Oliphant et al. performed a decision

analysis based on staged versus concomitant midurethral sling (MUS) surgery to treat women with occult SUI planning to undergo colpocleisis. In their study, fewer than a quarter of the women in the staged group underwent sling placement within 1 year [19]. In our study, among the 13 patients (13/37, 35%) who presented SUI before the POP surgery, only one woman (1/13, 7%) required sling placement later. Van der Ploeg et al. showed that only 52% of women with a diagnosis of occult SUI experienced urinary incontinence after the surgery [20]. However, of the women with occult SUI undergoing POP-only surgery, 13 % needed additional MUS surgery. In Deval's retrospective study of 30 hysterocolpectomy with colpocleisis procedures, no concomitant SUI surgery was performed, only suburethral plication. In this study symptoms of SUI persisted in four cases (13%) and *de novo* SUI occurred in two (6.6%) [17].

The risk of a *de novo* UI is an important element to discuss with the patient as some authors found an association between postoperative UI and women's dissatisfaction. Indeed, Hullfish and al. showed a statistical correlation between the postoperative UDI score and mean personal satisfaction goal attainment [16]. Crips et al. used a different satisfaction score: the Decision Regret Scale and the Satisfaction with Decision scale. These authors showed that 12 of their 87 subjects (13.8%) described regret or dissatisfaction with eight regrets due to *de novo* urinary complaints [21]. We found that the presence of postoperative urinary incontinence tended to limit patient satisfaction, although the study lacked the strength to demonstrate this. In the group of "very satisfied patients" (PGI-I = 1) the proportion of postoperative ICIQ-SF score >1 was 13.3% versus 50% in the PGI-I > 1 group (p=0.06). None of the preoperative scores of symptoms and quality of life influenced patient satisfaction (Table 5).

As described in the surgical technique, the creation of a deep ligamentous floor by the Campbell-Crossen technique is essential. It is very important to pull the plication beyond the

neck of the bladder, under the urethra to avoid *de novo* incontinence. The suspension of the bladder neck by this natural sling, and the final insertion of the bladder in the abdominal enclosure has the double effect of contributing greatly to the treatment and prevention of SUI. The main complications in our cohort were postoperative dysuria and rectal injury. For the patient with rectal injury sutured at the time of surgery and for the patient requiring postoperative abscess drainage, the PGI-I index was 1. In recent French recommendations, Deffieux et al. estimated the rate of dysuria and the need for intermittent urinary catheterization between 0 and 10% [22]. Von Pechmann et al. observed that concomitant hysterectomy was associated with more blood loss and blood transfusion (35% versus 12%,  $p=0.02$ ) without increasing the rate of other surgery complications [23]. In the cohort conducted by Katsara et al. in 44 women undergoing colpocleisis, five (11.4%) had major complications (four bladder injuries and one bowel perforation) which were sutured during surgery [24].

#### *Strengths and limitations:*

One of the strengths of our study was the use of validated instruments designed to assess the impact of surgery. Furthermore, the follow-up period was the second longest period (44 months), after the cohort by Hanson et al in 1969, for this type of elderly population with a responders' rate of 78.4% (29/37) [25].

Nevertheless, the retrospective nature and the low number of included patients raises some limitations.

#### **Conclusions**

Hysterocolpectomy with colpocleisis is an effective treatment for POP in a population of elderly women. Better assessment of patient expectations before surgery could improve the satisfaction score. The severity of prolapse appears to be the main satisfaction criterion. The

277 occurrence of urinary complications (incontinence or dysuria) should be discussed with the  
278 patients preoperatively as well as concomitant or staged treatment options.  
279

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## **Legend of Figures**

### **Figure 1.** Operative technic

a. Anterior quadrangular colpectomy of the anterior colpocele between Aa and anterior vaginal fornix

b. Rectangular colpectomy of the upper part of the posterior vaginal wall

c. Anterior and apical fixation by suburethral vesical plication, Crossen-Campbell technique (round ligaments plications are not visible because they were performed before the uterosacral ligaments were plicated)

## **Legend of tables**

**Table 1.** Characteristics of our population


**Table 2.** Surgical characteristics

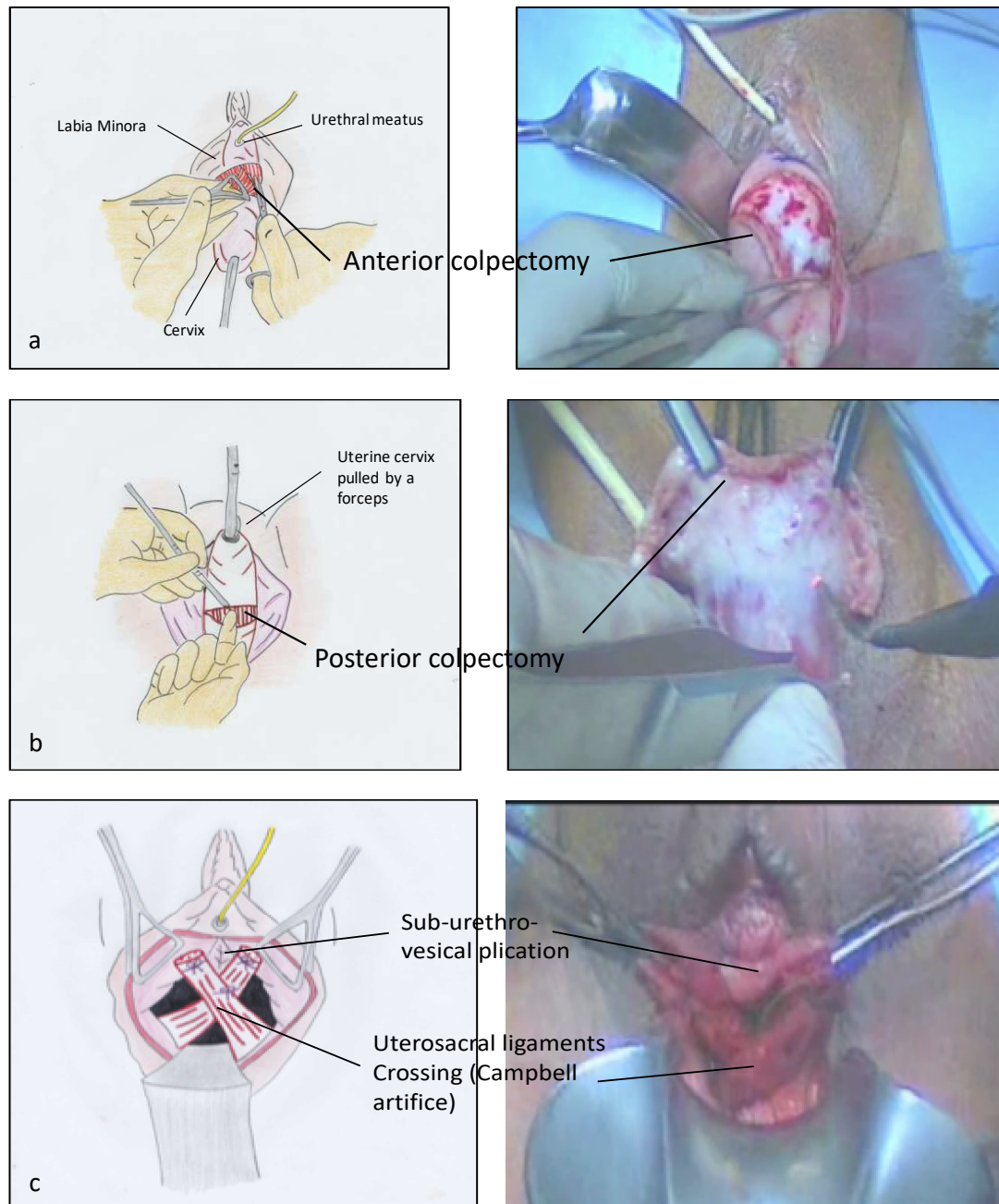
**Table 3.** Comparison of pre- and postoperative characteristics between responders and non-responders

**Table 4.** Results of symptom and quality of life questionnaires before and after the surgery

**Table 5.** Satisfaction criteria based on patient characteristics (bivariate analysis)

## **Conflict of Interest:**

The authors declare that they have no conflict of interest. 



**Figure 1.** Operative technic

- a. Anterior quadrangular colpectomy of the anterior colpocoele between Aa and anterior vaginal fornix
- b. Rectangular colpectomy of the upper part of the posterior vaginal wall
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**Table 1.** Characteristics of our population

		Total (n= 37) Mean ( $\pm$ SD) / n (%)
Age at response (years)		84.7 (7.1)
Age at surgery (years)		81.2 (6.0)
BMI (kg/m <sup>2</sup> )		25.3 (4.0)
History of pelvic surgery*		8 (21.6)
	Hysterectomy	5 (13.5)
	Burch	2 (5.4)
	Kapandji	1 (2.7)
	Vaginal pelvic organ prolapse surgery	1 (2.7)
	Abdominal sacrocolpopexy	2 (5.4)
Cystocele before surgery†		
	Mean Ba point (cm)	+4.6 (2.5)
	Stage 1	1 (2.9)
	Stage 2	2 (5.7)
	Stage 3	21 (60.0)
	Stage 4	11 (31.4)
Uterine prolapse before surgery †		
	Mean C point (cm)	+4.6 (3.8)
	Stage 1	1 (2.9)
	Stage 2	9 (25.7)
	Stage 3	11 (31.4)
	Stage 4	14 (40.0)
Rectocele before surgery †		
	Mean Bp point (cm)	+0.9 (2.8)
	Stage 1	9 (26.5)
	Stage 2	14 (41.2)
	Stage 3	8 (23.5)
	Stage 4	3 (8.8)
Stress Urinary Incontinence before surgery (positive stress test)		
	No	12 (32.4)
	Yes	25 (67.6)
MHU scores before surgery		
	Urgency score (/8)	1.9 (2.3)
	Pollakiuria score (/8)	1.0 (1.3)
	Stress urinary incontinence score (/4)	1.1 (1.4)
	Dysuria score (/4)	1.8 (1.1)

Mean IADL score (0-8)	7.14 (1.5)
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Mean ADL score (0-24)	23.7 (0.7)
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BMI, Body Mass Index; IADL, Instrumental activities of daily living; ADL, Activities of daily living

† Grade of prolapse according to the POP-Q classification

\* several possible surgeries for the same patient

**Table 2.** Surgical characteristics

		Total (n=37)
		Mean ( $\pm$ SD) / n (%)
Operating time (min)		112.1 (31.8)
Mean ASA score		2.5 (0.6)
	ASA 1-2	16 (43.2)
	ASA 3	18 (48.7)
Urinary incontinence surgery		
	No	26 (70.3)
	Retropubic tape (TVT)	4 (10.8)
	Transobturator tape (TVT-O)	7 (18.9)
Peroperative complications		1 (2.7)
Mean length of hospital stay (days)		5.5 (4.2)
Postoperative complications (Clavien-Dindo classification)		
	<i>Stage 3b</i>	
	Second intervention for serious adverse events	3 (8.1)
	Lowering of under urethral sling	1 (2.7)
	Section of under urethral sling	1 (2.7)
	Second surgery for urinary incontinence	1 (2.7)
	<i>Stage 3a</i>	
	Pararectal abscess drainage	1 (2.7)
	<i>Stage 2</i>	
	Dysuria (prolonged intermittent urinary catheterization)	2 (5.4)
	Pain	1 (2.7)
	Postoperative urinary incontinence	13 (35.1)

ASA, American Society of Anesthesiologists

**Table 3.** Comparison of pre- and postoperative characteristics between responders and non-responders

	Non-responders (n= 8)	Responders (n= 29)	p value
Age at surgery (years, mean, SD)	81.7 (1.3)	81.1 (1.2)	0.79
BMI (Kg/m <sup>2</sup> , mean, SD)	23.6 (1.9)	25.7 (0.7)	0.20
Preoperative prolapse grade (POP-Q)			
2	0	2 (7.1)	
3	5 (71.4)	12 (42.9)	
4	2 (28.6)	14 (50.0)	0.50
History of pelvic surgery			
No	8 (100.0)	21 (72.4)	
Yes	0	8 (27.6)	0.16
Postoperative events			
No	7 (87.5)	22 (75.9)	
Yes	1 (12.5)	7 (24.1)	0.65

BMI Body Mass Index

**Table 4.** Results of symptom and quality of life questionnaires before and after the surgery

	Pre-operative (m+/-SD) [min-max]	Post-operative (m+/-SD) [min-max]	p
POP-DI 6	39.8 +/- 17.2 [16.7-66.7]	2.43 +/- 6.6 [0-29.2]	<0.0001
CRADI-8	15.7 +/- 14.2 [0-46.9]	7.55 +/-13.6 [0-43.7]	0.047
UDI-6	35.9+/-19.5 [0-75]	8.42 +/- 9.2 [0-31.2]	<0.0001
PFDI-20	93.3 +/- 46.3 [25-188]	18.4 +/- 24.0 [0-77.1]	<0.0001
ICIQ-SF	.	2.15 +/- 4.4 [0-17]	.

PFDI 20, Pelvic Floor Disorder Inventory; POPDI-6, Pelvic Organ Prolapse-Distress Inventory; CRADI-8, Colo-Rectal-Anal Distress Inventory; UDI-6, Urinary Distress Inventory



**Table 5.** Satisfaction criteria based on patient characteristics (bivariate analysis)

		Group PGI =1 (n=17) Mean ( $\pm$ SD) / n (%)	Group PGI >1 (n=12) Mean ( $\pm$ SD) / n (%)	p
Age		82.3 (2.0)	85.2 (1.6)	0.30
BMI* (Kg/m <sup>2</sup> )		26.5 (1.0)	23.9 (1.2)	0.11
Grade of prolapse		3.7 (0.1)	3.1 (0.2)	0.01
Duration of hospitalisation		5.6 (0.8)	4 (0.3)	0.12
Hysterectomy	No	8 (47.1)	3 (25.0)	0.23
	Yes	9 (52.9)	9 (75.0)	
Postoperative urinary incontinence	No	11 (64.7)	6 (50.0)	0.42
	Yes	6 (35.3)	6 (50.0)	
Postoperative dysuria	No	15 (88.2)	11 (91.7)	0.76
	Yes	2 (11.8)	1 (8.3)	
IADL**		23.6 (0.2)	24 (0)	0.40
ADL**		6.9 (0.5)	7.7 (0.2)	0.36
Sub urethral sling during the surgery	No	15 (88.2)	9 (75.0)	0.62
	Yes	2 (11.8)	3 (25.0)	
pre-operative EVA		6.8 (0.4)	6.0 (0.7)	0.28
pre-operative MHU (SUI) <sup>†</sup>		1.6 (0.4)	0.6 (0.4)	0.09
Preoperative PFDI-20 (median) <sup>†</sup>	< 100	7 (53.8)	3 (37.5)	0.60
	$\geq$ 100	6 (46.2)	5 (62.5)	
Preoperative POPDI-6 (median) <sup>†</sup>	< 37.5	6 (46.1)	3 (37.5)	0.90
	$\geq$ 37.5	7 (53.9)	5 (62.5)	
Preoperative UDI-6 (median) <sup>†</sup>	< 37.5	6 (46.1)	4 (50.0)	0.90
	$\geq$ 37.5	7 (53.9)	4 (50.0)	
Preoperative CRADI-8 (median) <sup>†</sup>	< 14.06	8 (61.5)	3 (37.5)	0.30
	$\geq$ 14.06	5 (38.5)	5 (62.5)	

\* BMI: Body Mass Index, \*\*IADL: Instrumental Activities of Daily Living / ADL: Activities of Daily Living

<sup>†</sup>MHU, Urinary Handicap Measurement; PFDI 20, Pelvic Floor Disorder Inventory; POPDI-6, Pelvic Organ Prolapse-Distress Inventory; CRADI-8, Colo-Rectal-Anal Distress Inventory; UDI-6, Urinary Distress Inventory