

Prospective Follow-Up of Female Sexual Function after Vaginal Surgery for Pelvic Organ Prolapse Using Transobturator Mesh Implants

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DOI: 10.1111/j.1743-6109.2010.01959.x

ABSTRACT

Introduction. Although the use of transobturator mesh implants for pelvic organ prolapse repair has been shown to be safe and effective, concern exists that the presence of prosthetic material in the vagina may adversely affect sexual function.

Aim. To evaluate the impact of transobturator mesh implantation on sexual function using validated questionnaire.

Main Outcome Measures. Female Sexual Function Index (FSFI), a validated 19-item questionnaire that assesses six domains of sexual function (desire, arousal, lubrication, orgasm, satisfaction, and pain), was used. The questionnaire was administered preoperatively, and at 3, 6, 12, and 24 months postoperatively. Clinical data were also recorded at each time point.

Methods. Prospective nonrandomized study including 96 women with pelvic organ prolapse (cystocele, rectocele, vault prolapse). Transvaginal anterior or posterior wall repair using transobturator mesh implants with or without concomitant transobturator sling procedure.

Results. Mean age was 51.4 ± 5.2 years. Mean operating time was 47.6 ± 23.4 minutes, and the mean hospitalization period was 3.8 ± 1.6 days. After initial decrease during the first 3 months, patients experienced a steady improvement in their sexual function. At 24 months postoperatively, the total mean FSFI score reached significantly higher values compared to the baseline ($P = 0.023$). Furthermore, pain-free intercourse improved during the follow-up reaching mean score of 4.27 ± 0.79 ($P < 0.05$) after 2 years. Pelvic floor examination at 2 years follow-up showed excellent surgical results with only 3.1% of the patients presenting with stage II vaginal wall prolapse.

Conclusions. Surgical repair of symptomatic pelvic organ prolapse using mesh implants results in improvement of major parameters of sexual function. A worsening in pain with intercourse during the initial months postoperatively lessens after 3 months as healing is completed. **Hoda MR, Wagner S, Greco F, Heynemann H, and Fornara P. Prospective follow-up of female sexual function after vaginal surgery for pelvic organ prolapse using transobturator mesh implants. J Sex Med **;***-**-**.**

Key Words. Pelvic Organ Prolapse; Transobturator Mesh Implants; Female Sexual Function after Vaginal Surgery; Quality of Life

Introduction

Pelvic floor dysfunction encompasses common conditions that negatively impact the lives of millions of women worldwide. These conditions include urinary and fecal incontinence, pelvic organ prolapse, pelvic pain, and sexual dysfunction [1]. Both physical and emotional factors may con-

tribute to the development of sexual dysfunction in patients with pelvic organ prolapse. Incontinence with urine leakage during sexual intercourse and the embarrassment resulting from it, changing body image, and changing the anatomical features of vagina are examples of such factors [2]. Surgery is considered as the most effective treatment for pelvic organ prolapse [1]. Although improvement

in urinary, local, and bowel symptoms may be the most appropriate initial outcomes of the operation, other outcomes, including the effect on sexual function, may be equally important. Although the use of transobturator mesh implants for pelvic organ prolapse repair has been shown to be safe and effective, concern exists that the presence of prosthetic material in the vagina may adversely affect sexual function. Studies assessing sexual function following surgical repair for pelvic organ prolapse are conflicting with some reporting worsening and some reporting improvement [3–5] (for further references, see also Table 4). Many studies concentrate on treatments for stress urinary incontinence alone, and much of the earlier literature is limited by the absence of validated instruments to assess sexual function. Data on sexual function after newer procedures for surgical treatment of pelvic floor dysfunction, such as transvaginal mesh graft implantation, using validated questionnaires are scarce, and most of the studies have asked the patients only about the presence or absence of dyspareunia.

Aim

Using the Female Sexual Function Index (FSFI) questionnaire, a brief self-report measure of female function that evaluates six different domains of sexual function, the objective of this prospective study was to determine whether vaginal surgery for pelvic organ prolapse using transobturator mesh implant leads to alterations in sexual function.

Methods

Study Population

This is a prospective, nonrandomized study including 96 sexually active women (having vaginal intercourse) with pelvic organ prolapse who were scheduled for vaginal repair using transobturator mesh implants. The exclusion criteria were having a partner with a sexual disorder, a history of previous surgery for pelvic organ prolapse, and vaginal or urinary tract infection. The clinical examinations and surgical procedures described in this paper are part of our routine clinical care. After Institutional Review Board (IRB) approval, all patients were informed about the procedures and written consent was obtained. The overall response rate at 24 months follow-up was 88.5%.

Surgical Techniques

The anterior system (Perigee®; American Medical Systems, Minnetonka, MN, USA) consists of a macroporous Type I mesh with four arms attached to the graft. The operation starts with a vertical incision in anterior vaginal wall in a similar manner as a traditional anterior repair. The dissection is taken out laterally to the sidewall up to the ischial spine and the bladder also dissected superiorly off the cuff of vagina. Superior needles are passed first with direct finger guidance. The incisions are made in genito-fermoral crease beneath the adductor longus tendon. The inferior incisions are 3 cm inferior and 2 cm lateral to the superior incisions. The inferior needle is inserted into the obturator space so that tip is pointed directly at the ischial spine. The tail of the mesh is then excised and adjusted to the patient's vaginal wall length. The arms are then adjusted in a tension-free manner, which pulls the anterior wall up into its normal anatomic position. The posterior system (Apogee®, American Medical Systems) has also a macroporous Type I mesh with two apical arms attached to the graft. The technique involves placing the needles through very small buttock incisions (5 mm) 3 cm lateral to the anus on each side, up alongside the vagina to the apex and grasping the lateral mesh arms on each side through the iliococcygeus fascia at the level of the ischial spines and pulling the arms through the buttock incisions. Overall, 36 patients have received concomitant transobturator single-incision sling procedure (MiniArc®, American Medical Systems) for stress urinary incontinence.

Statistical Analysis

Statistical analysis was performed using Sigma-Plot® software version 11.0 (SPSS Inc., Chicago, IL, USA). Data are expressed as mean ± standard deviation and statistical significance was accepted at $P < 0.05$. Changes over time in measure of sexual function scores were analyzed by the repeated measures two-way analysis of variance. Within-group effects for time were tested by post hoc Dunnett's contrasts of baseline values vs. subsequent measurements.

Main Outcome Measures

The primary outcome parameters were defined as any changes in sexual function, as measured by FSFI, at 24 months postoperatively compared to the baseline as well as changes in FSFI domains

and total score over time. Preoperatively and at each follow-up visit (3 months, 6 months, 1 year and 2 years), the FSFI questionnaire has been given to the patients. The FSFI questionnaire is a brief, self-report measure of female function that evaluates six different domains of sexual function: desire, subjective arousal, lubrication, orgasm, satisfaction, and pain. First described by Rosen et al. in 2000, the FSFI is widely used to assess sexual function [6]. All questionnaires were completed independently. The secondary outcome measure of the study was to evaluate the efficacy and clinical performance of mesh-enforced pelvic floor repair in our population.

Preoperatively, all women were evaluated with a general medical history, sexual history, physical examination, 24 hours pad count (number of sanitary pads used in 24 hours), video urodynamics, and cystoscopy. Degree of pelvic organ prolapse was quantitatively assessed using pelvic organ prolapse quantitation (POP-Q) staging system. POP-Q defines the various stages of prolapse as follows: Stage 0 is no movement, stage I is some movement 1 cm above the introitus, stage II is prolapse to the level of the introitus, stage III is prolapse beyond the introitus, and stage IV is complete extrusion. These examinations were repeated at each follow-up visit by an examiner from our department not involved in surgical procedures. The examinations were performed in dorsal lithotomy position. Prior to vaginal examination, the bladder was emptied and vaginal specula were routinely used. For evaluation of clinical symptoms, we used a customized questionnaire, designed in our clinic. Our customized pelvic floor questionnaire assesses female bladder, bowel and sexual function, pelvic organ prolapse, and condition-specific quality of life issues suitable for routine clinic and research. The questionnaire was developed from several questionnaires and included additional clinically relevant questions.

Results

The patients' demographic data are presented in Table 1. Preoperatively, symptoms of bulging in the vagina, stress urinary incontinence, frequency and urgency, and bowel symptoms (anal incontinence, constipation) were reported by 92.7%, 63.7%, 41.6%, and 29.4% of the patients, respectively (Table 1). A prolapse of the anterior vaginal wall (cystocele) was present in 64.7% of the patients, a concomitant vaginal vault prolapse in 13.5%, and a prolapse of the posterior vaginal wall

Table 1 Demographics of the patient's population

Variables	Values
Number of patients	96
Age (mean \pm SD; Range)	51.4 \pm 6.21; 43–68
BMI (mean \pm SD; Range)	26.1 \pm 5.2; 20–32
Prolapse of the anterior vaginal wall	62/96 (64.7%)
Prolapse of the posterior vaginal wall	21/96 (21.8%)
Vault prolapse	13/96 (13.5%)
Preoperative symptoms	
Stress urinary incontinence (SUI)	61/96 (63.7%)
Urgency	40/96 (41.6%)
Vaginal bulging	89/96 (92.7%)
Bowel symptoms	28/96 (29.4%)
Preoperative prolapse stage	
II	60/96 (62.5%)
III	33/96 (34.4%)
IV	3/96 (3.1%)
Postoperative prolapse stage	
0	71/96 (74%)
I	22/96 (22.9%)
II	3/96 (3.1%)

BMI = body mass index (kg/m²); SD = standard deviation.

(rectocele) in 21.8 % of the patients, respectively. Overall, before their operation, 62.5% of the patients had a stage II vaginal wall prolapse and 34.4% had a stage III descent (Table 1).

The results of the evaluation of sexual function using FSFI questionnaire are presented in Table 2 and Figure 1. From 96 patients enrolled for evaluation of sexual function, 92 patients completed the follow-up at 3 months, 91 patients at 6 months, 88 patients at 12 months, and 85 patients at 24 months postoperatively, respectively (Table 2). During the first 3 months after the operation, the total mean baseline FSFI score decreased from 17.17 \pm 4.33 to 15.13 \pm 4.64 ($P = ns$; Table 2). However, after 3 months, most patients experienced a steady improvement in their sexual function as demonstrated by increasing scores in all domains. At 2 years after the operation, the total mean FSFI score reached significantly higher values compared to the baseline ($P = 0.023$; Table 2). Also, at 2 years follow-up, statistically significant improvements were noted in three domains, including desire, arousal, and vaginal lubrication (Table 2). Furthermore, notable improvements were reported for two domains, namely ability to achieve orgasm and sexual satisfaction. However, in terms of pain, the mean score for the pain-free intercourse initially decreased during the first 3 months after the operation from 3.22 \pm 0.59 to 2.12 \pm 0.61 ($P = 0.042$). Thereafter, also pain-free intercourse improved during the follow-up reaching mean score of 4.27 \pm 0.79 ($P = 0.038$) after 2 years (Table 2). Furthermore, as shown in Figure 1, there were no significant

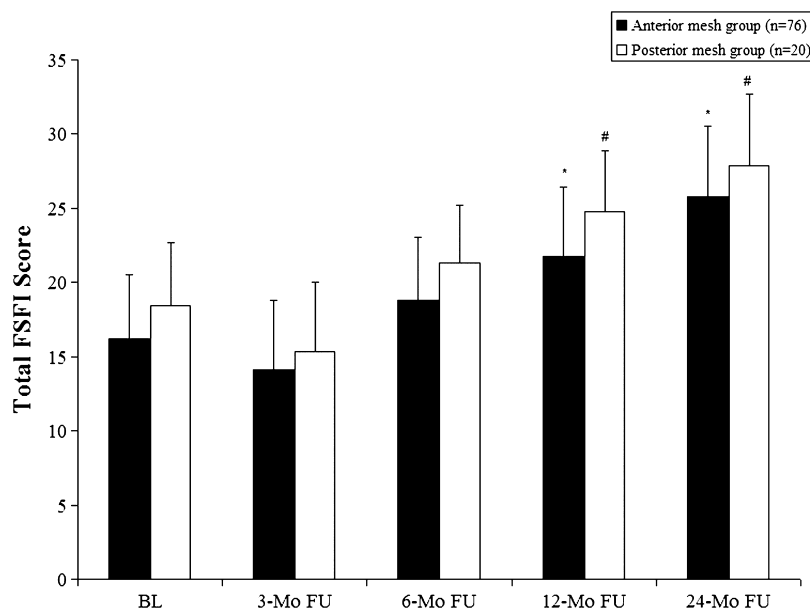


Figure 1 Changes in total Female Sexual Function Index (FSFI) score over the postoperative course in anterior mesh group (black bars) compared to posterior mesh group (white bars). BL = baseline; Mo = months; FU = follow-up; * and # $P < 0.05$ compared to BL by analysis of variance with Dunnett's post hoc test.

differences between the posterior and anterior mesh groups in terms of sexual function.

Perioperative and postoperative clinical and functional results are shown in Table 3. Two patients (2.1%) required intraoperative bladder suturing due to inadvertent bladder entry. There were no rectal injuries and no bleeding necessitating transfusion and no case of infections. Pelvic floor examination at 24 months postoperatively showed good surgical results with only 3.1% of the patients presenting with stage II vaginal wall prolapse (Table 1). The results of POP-Q measurements are presented in Figure 2. Furthermore, no case of voiding dysfunction, de novo stress urinary incontinence or erosions of mesh implants was observed during the entire follow-up period. However, one patient (1.04%) experienced de novo groin/pelvic pain with symptoms of urgency at 6 months and 13 months postoperatively. Clini-

cal examination, sonography, and cystoscopy showed no sign of erosion or dislocation of mesh implants. However, cystoscopy revealed signs of chronic cystitis. Both patients were administered a 10-week treatment with intravesical sodium pentosan polysulfate and oral anticholinergics as well as 4 weeks of pain medication which resulted in significant improvement of the pain symptoms.

Discussion

Since its introduction in 1996 by Julian, the use of grafts in pelvic support surgery has been well reported [7]. More recently, there have been multiple reports on various methods to place grafts via a vaginal approach for cystocele and rectocele repair [8,9]. However, although its use vaginally has been somewhat controversial, there is general agreement that grafts may be necessary to try to

Table 2 Follow-up of Female Sexual Function Index (FSFI) after transobturator mesh repair for pelvic organ prolapse

Variable	BL n = 96	3-Mo FU n = 92	6-Mo FU n = 91	12-Mo FU n = 88	24-Mo FU n = 85	P^*
Desire	2.74 ± 0.67	2.21 ± 0.79	3.11 ± 0.81	3.87 ± 0.83	4.32 ± 0.74	0.011
Arousal	2.97 ± 0.63	2.89 ± 0.88	3.09 ± 0.69	3.66 ± 0.75	4.28 ± 0.83	0.024
Lubrication	2.12 ± 0.72	2.14 ± 0.76	3.18 ± 0.59	3.61 ± 0.81	4.08 ± 0.78	0.029
Orgasm	3.02 ± 0.87	2.76 ± 0.97	3.17 ± 0.79	3.72 ± 0.91	4.01 ± 0.76	0.058
Satisfaction	3.10 ± 0.85	3.01 ± 0.63	3.53 ± 0.66	3.87 ± 0.78	4.12 ± 0.81	0.061
Pain	3.22 ± 0.59	2.12 ± 0.61	3.69 ± 0.77	3.99 ± 0.66	4.27 ± 0.79	0.051
Total score	17.17 ± 4.33	15.13 ± 4.64	19.77 ± 4.31	22.72 ± 4.74	25.08 ± 4.71	0.023

* P value 24-Mo-FU compared to BL by ANOVA with Dunnett's post hoc test.

Data are presented as mean standard deviation.

BL = baseline; FU = follow-up.

Table 3 Clinical and functional outcomes after transobturator mesh repair for pelvic organ prolapse

Variable	n = 96
Type of the operation	
Anterior wall repair (<i>Perigee</i> ®)	76/96 (79.2%)
Posterior wall repair (<i>Apogee</i> ®)	20/96 (20.8%)
Concomitant TOT (<i>MiniArc</i> ®)	36/96 (37.5%)
Mean operating time (minutes; mean ± SD; Range)	47.6 ± 23.4 (23–114)
Mean hospital stay (mean ± SD; Range)	3.8 ± 1.6 days (3–9 days)
Hemorrhage	0/96
Inadvertent bladder entry	2/96 (2.08%)
Voiding dysfunction	0/96
Groin/ pelvic pain	1/96 (1.04%)
Vaginal erosion	0/96
Vaginal infections	0/96
De-novo urinary stress urinary incontinence	0/96

SD = standard deviation; TOT = transobturator tape.

achieve more anatomic repairs with higher cure rates. One reason for this might be that the traditional anterior and posterior colporrhaphy techniques address only midline defects and plicate weakened tissue together under tension which most likely leads to its high failure rates and can

result in vaginal shortening and/or constriction [10]. Vaginal shortening results in sexual dysfunction and dyspareunia. The management of using a mesh graft in the anterior compartment is also supported by a recent Cochrane review that reported a higher rate of recurrent prolapse after anterior colporrhaphy than after mesh repair [11,12]. Despite the reported safety and efficacy of transobturator mesh implants for pelvic organ prolapse repair, there might be some concern about their adverse effects on sexual function.

In the present study, despite the use of synthetic mesh, the patients were mainly satisfied with their sexual life, as demonstrated by the FSFI total score 1 and 2 years after the procedures. In particular, results of our study demonstrated that major items of FSFI, namely desire, arousal, vaginal lubrication, ability to achieve orgasm, and sexual satisfaction were notably improved during the course of postoperative follow-up. Notably, pain with intercourse was first deteriorated postoperatively, although this has not been severe enough to affect other domains. The overall risk of pain with intercourse with traditional repairs without mesh has been reported to be as high as 36% and therefore

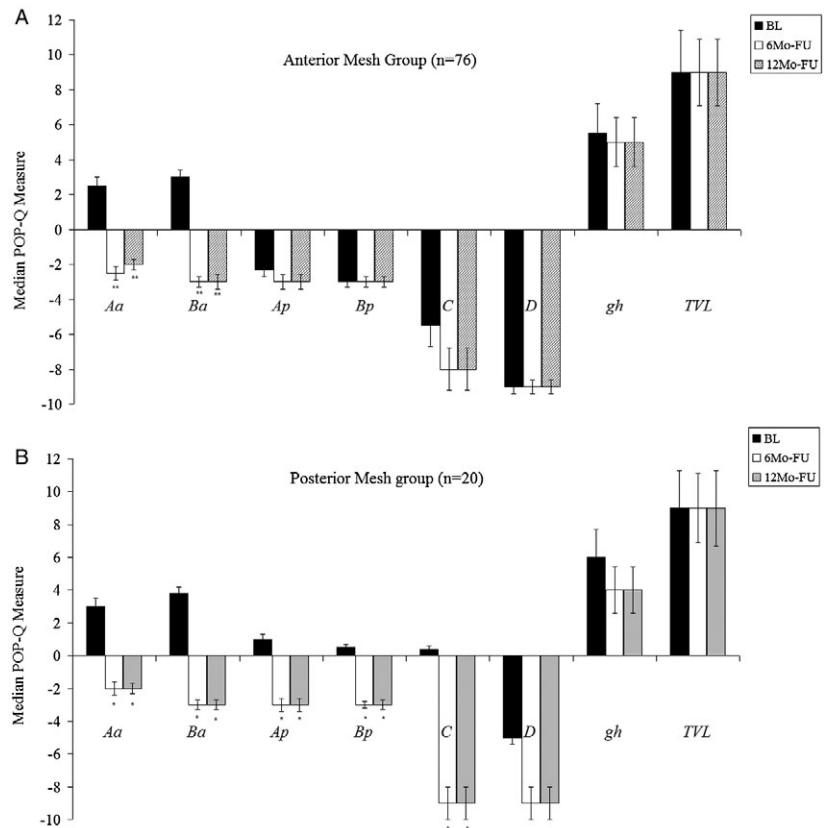


Figure 2 (A) Pelvic organ prolapse quantification (POP-Q) measured in cm at baseline (PreOp), 6 and 12 months postoperative for anterior mesh-reinforced pelvic floor reconstruction (n = 76). (B) Pelvic organ prolapse quantification (POP-Q) measured in cm at baseline (PreOp), 6 and 12 months postoperative for posterior mesh-reinforced pelvic floor reconstruction (n = 20). Data are presented as median (± standard deviation). **P* < 0.05 and ***P* < 0.01 compared to BL by analysis of variance with Dunnett's post hoc test. BL = baseline; Mo = months; FU = follow-up.

Table 4 Most recent studies evaluating dyspareunia and/or sexual function using questionnaires in patients after pelvic floor repair for organ prolapse (grey; use of mesh grafts for repair)

Study	Year	Procedure	n	Follow-up (months)	Dyspareunia	Sexual function questionnaire	Success rate
Baumann et al. [18]	2009	Sacrospinous fixation	52	36	3/52	FSFI: improved	93%
Azar et al. [19]	2008	Anterior/posterior colporrhaphy	60	3.8	#	FSFI: improved	#
Pauls et al. [20]	2007	Anterior/posterior colporrhaphy; vaginal suspension; TVT	51	6	21/51, 42%	FSFI: No change	94%
Thomas et al. [21]	2009	Abdominal Mesh sacrocolpopexy	21	52	10%	#	90.5%
Kuhn et al. [22]	2009	Anterior/posterior colporrhaphy/ Sacrospinous fixation	70	6	2/70	FSFI: improved	96%
Lau et al. [23]	2010	TVT-O	65	6	#	PISQ-12: 48% decreased	95%
Hiltunen et al. [24]*	2007	Anterior colporrhaphy vs. low-eight polypropylene-mesh	97/104	12	Less in mesh-group	#	ant. rep.: 62% mesh group: 93%
Nieminen et al. [17]*	2008	Anterior colporrhaphy vs. low-eight polypropylene-mesh	95/105	24	Less in mesh-group	FSFI: improved	ant. rep.: 59% mesh group: 89%
Gauruder-Burmester et al. [25]	2007	Perigee/Apogee	120	12	0	#	93%
Moore et al. [10]	2009	Perigee	77	18.1	0	#	93.5%
Gauruder-Burmester et al. [16]	2009	Perigee/Apogee	120	12	0	#	94%
Lowmann et al. [13]	2008	Prolift	57	7.1	16.7%	PISQ-12	94.6%
Sentilhes et al. [15]	2008	Polypropylene Mesh	83	12	16%	PISQ-12: no difference	80%
Altman et al. [26]	2009	Prolift	105	12	No difference	PISQ-12: decreased	#
Natale et al. [27]*	2009	Polypropylene soft vs. Pelvicol	96/96	24	10.40% prolene 13% pelvicol	PISQ-12	Prolene: 72% Pelvicol: 56.4%
Milani et al. [28]	2005	Polypropylene mesh	63	17	20% anterior 63% posterior	#	94%
Su et al. [29]	2009	Prolift	33	6	#	PISQ-12: decreased	UDI and IIQ-7 improved
Lowenstein et al. [30]	2010	Multiple procedures (29% mesh)	239	6	#	PISQ-12: improved	POPDI-6: improved

*Prospective randomized trial.
FSFI = Female Sexual Function Index; PISQ = Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire; # = No data available.

not an insignificant risk [13]. Prospective comparative studies between mesh and traditional repairs in the anterior compartment have shown no significant difference in rates of dyspareunia [14–16], and one has actually shown a lower risk of dyspareunia in the mesh group [17]. Moore et al. suggest that the risk of dyspareunia or vaginal pain can be kept to a minimal by ensuring that the mesh lies flat in the space and is placed tension-free; that is, the mesh arms penetrating the sidewalls should not be pulled too tight or create a “band” as this can cause pain with or without intercourse [10]. Additionally, as graft technology continues to improve, a lighter, less dense type I mesh may also help reduce these risks even more.

Nevertheless, few reports exist presently on sexual function after various procedures for organ prolapse repair. A summary of most relevant reports on sexual function and/or dyspareunia for different surgical approach for organ prolapse repair is presented in Table 4. However, the discrepancy between the results of related studies could be attributed to several reasons. First, as already mentioned above, the existing literature reports to a bigger part on only some aspects of sexual function, i.e., in terms of sexual satisfaction or dyspareunia. Second, currently, none of the available standard questionnaires is accepted as the unique instrument for the assessment of female sexual function [19]. Thus, based upon the questionnaire used in each study, analysis has been carried out differently. Some of the studies reported the number and percent of subjects with sexual satisfaction and dissatisfaction, and others reported the mean score of satisfaction in all subjects [3,4]. In this study, we used the translated standardized FSFI questionnaire, which is designed according to the three-phase model of female sexual response described by Kaplan [6]. The FSFI is a validated questionnaire for assessing sexual function in women. However, in order to obtain comparable results from different studies, it is mandatory to find a consensus about a standard questionnaire and using it in future researches. Third, changes in sexual function after some procedures for organ prolapse repair has been reported only for maximum of two time points (i.e., preoperatively and postoperatively), without conclusive information on the follow-up. The present study is one of the first which reports on a sequential follow-up for up to 2 years after the operation. Moreover, differences in demographic and clinical characteristics between the study groups might also play a role in reporting discrep-

ant results in prior studies. As older age is generally associated with poorer sexual function, the difference in mean age between the study groups in different studies makes the comparison between the studies imprecise. Our study population was slightly younger than the populations studied by some other authors. This could be an explanation for the improvement of sexual function seen in our study. Another factor which might have contributed to our superior results is the routine use of local estrogen treatment for 6 weeks after the operation. Sufficient vaginal capacity and lubrication is known to be influenced positively by the local estrogen treatment [31]. Thus, local estradiol might be useful for the improvement in sexual function and the prevention of vaginal narrowing after vaginal prolapse surgery.

Conclusions

In conclusion, our study demonstrated that surgical repair of symptomatic pelvic organ prolapse results in significant improvement in major parameters of sexual function as assessed by the FSFI. A worsening in pain with intercourse during the initial months postoperatively lessens with observation greater than 3 months as healing is completed.

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Conflict of Interest: None.

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Appendix

Female Sexual Function Index (FSFI)*

Question	Response options	Question	Response options
Q1: Over the past 4 weeks, how often did you feel sexual desire or interest?	5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never	Q11: Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you reach orgasm (climax)?	0 = No sexual activity 5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never
Q2: Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?	5 = Very high 4 = High 3 = Moderate 2 = Low 1 = Very low or none at all	Q12: Over the past 4 weeks, when you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax)?	0 = No sexual activity 1 = Extremely difficult or impossible 2 = Very difficult 3 = Difficult 4 = Slightly difficult 5 = Not difficult
Q3: Over the past 4 weeks, how often did you feel sexually aroused ("turned on") during sexual activity or intercourse?	0 = No sexual activity 5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never	Q13: Over the past 4 weeks, how satisfied were you with your ability to reach orgasm (climax) during sexual activity or intercourse?	0 = No sexual activity 5 = Very satisfied 4 = Moderately satisfied 3 = About equally satisfied and dissatisfied 2 = Moderately dissatisfied 1 = Very dissatisfied
Q4: Over the past 4 weeks, how would you rate your level of sexual arousal ("turn on") during sexual activity or intercourse?	0 = No sexual activity 5 = Very high 4 = High 3 = Moderate 2 = Low 1 = Very low or none at all	Q14: Over the past 4 weeks, how satisfied have you been with the amount of emotional closeness during sexual activity between you and your partner?	0 = No sexual activity 5 = Very satisfied 4 = Moderately satisfied 3 = About equally satisfied and dissatisfied 2 = Moderately dissatisfied 1 = Very dissatisfied
Q5: Over the past 4 weeks, how confident were you about becoming sexually aroused during sexual activity or intercourse?	0 = No sexual activity 5 = Very high confidence 4 = High confidence 3 = Moderate confidence 2 = Low confidence 1 = Very low or no confidence	Q15: Over the past 4 weeks, how satisfied have you been with your sexual relationship with your partner?	5 = Very satisfied 4 = Moderately satisfied 3 = About equally satisfied and dissatisfied 2 = Moderately dissatisfied 1 = Very dissatisfied
Q6: Over the past 4 weeks, how often have you been satisfied with your arousal (excitement) during sexual activity or intercourse?	0 = No sexual activity 5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never	Q16: Over the past 4 weeks, how satisfied have you been with your overall sexual life?	5 = Very satisfied 4 = Moderately satisfied 3 = About equally satisfied and dissatisfied 2 = Moderately dissatisfied 1 = Very dissatisfied
Q7: Over the past 4 weeks, how often did you become lubricated ("wet") during sexual activity or intercourse?	0 = No sexual activity 5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never	Q17: Over the past 4 weeks, how often did you experience discomfort or pain during vaginal penetration?	0 = Did not attempt intercourse 1 = Almost always or always 2 = Most times (more than half the time) 3 = Sometimes (about half the time) 4 = A few times (less than half the time) 5 = Almost never or never
Q8: Over the past 4 weeks, how difficult was it to become lubricated ("wet") during sexual activity or intercourse?	0 = No sexual activity 1 = Extremely difficult or impossible 2 = Very difficult 3 = Difficult 4 = Slightly difficult 5 = Not difficult	Q18: Over the past 4 weeks, how often did you experience discomfort or pain following vaginal penetration?	0 = Did not attempt intercourse 1 = Almost always or always 2 = Most times (more than half the time) 3 = Sometimes (about half the time) 4 = A few times (less than half the time) 5 = Almost never or never
Q9: Over the past 4 weeks, how often did you maintain your lubrication ("wetness") until completion of sexual activity or intercourse?	0 = No sexual activity 5 = Almost always or always 4 = Most times (more than half the time) 3 = Sometimes (about half the time) 2 = A few times (less than half the time) 1 = Almost never or never	Q19: Over the past 4 weeks, how would you rate your level (degree) of discomfort or pain during or following vaginal penetration?	0 = Did not attempt intercourse 1 = Very high 2 = High 3 = Moderate 4 = Low 5 = Very low or none at all
Q10: Over the past 4 weeks, how difficult was it to maintain your lubrication ("wetness") until completion of sexual activity or intercourse?	0 = No sexual activity 1 = Extremely difficult or impossible 2 = Very difficult 3 = Difficult 4 = Slightly difficult 5 = Not difficult		

*For the complete FSFI questionnaire, instructions and scoring algorithm, please see www.FSFIquestionnaire.com.