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Does being performed by urologist or gynecologist affect the outcomes of women who have had sacrocolpopexy?

S. Citgez[a,*], M. Oncul[b], C. Demirdag[a], B. Ercili[a], B. Cetinel[a]

[a] Department of Urology, Istanbul University-Cerrahpasa, Cerrahpasa School of Medicine, Turkey
[b] Department of Gynecology and Obstetrics, Istanbul University-Cerrahpasa, Cerrahpasa School of Medicine, Turkey

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ABSTRACT

Objective: To compare the outcomes of women who underwent abdominal sacrocolpopexy (ASC) by urologist and gynecologist.
Study design: A total of 61 women underwent transabdominal sacrocolpopexy, with 31 by a urologist (Group 1) and 30 by a gynecologist (Group 2). The patients were presented with symptomatic pelvic organ prolapse (POP). The results were evaluated with Baden-Walker system and International Consultation on Incontinence Questionnaire - Short Form (ICIQ-SF) to assess anatomical and continence outcomes. Postoperative complications were documented based on the Dindo and Clavien Classification. Statistical analyses were done using Mann-Whitney U test and Fisher's exact test with SPSS version 21.0.
Results: The mean follow-up time was 21.4 (12–36) and 21.8 (12–36) months for Group 1 and Group 2, respectively ($p = 0.72$). The mean estimated blood loss and length of hospitalization were similar in both groups. The success rates were; 93.5% for Group 1 and 93.3% for Group 2 ($p = 0.89$). There was no difference in complication rates between the two groups ($p > 0.05$).
Conclusion: The fact that it was administered by gynocologist or urologist does not affect the outcomes of sacrocolpopexy surgery. Similar success and complication rates were found in the patients for both groups.

Introduction

The surgical treatment of apical pelvic organ prolapse (POP) could be perform by transvaginal and transabdominal approaches [1]. The abdominal approaches are more morbid than vajinal approaches. However, vajinal approaches have higher recurrence rates than abdominal approaches [2]. Nowadays, abdominal sacrocolpopexy (ASC) is the gold standard technique for the surgical treatment of apical POP [1,2]. The procedure shows perfect anatomical and functional outcomes [2].

In many hospitals, POP surgeries are performed in gynecology and urology clinics and cause sweet competition between both clinics, as in the case of anti-incontinence surgeries. Herein we report our experience with ASC with performed by urologist and by gynecologist.

Materials and methods

A total of 61 women who were diagnosed with POP and underwent a sacrocolpopexy operation (31 by urologist; Group 1, 30 by gynecologist; Group 2) between January 2016 to January 2018 were included in this retrospective study. Postoperative follow-up less than 12 months were the exclusion criteria in this study. The demographic data were similar for both two groups (Table 1).

All women were presented with vaginal masses. The degree of prolapse was evaluated according to Baden-Walker system [3] and all women had Grade 3 or 4 prolapse. Except for 5 patients, all others had previously had hysterectomy. They were advanced stage POP cases that developed after hysterectomy. All women were evaluated with urodynamic investigation preoperatively. The urodynamic study consisted of uroflowmetry, meausurement of postvoid residual urine (PVR), cystometry and measurement of valsalva leak point pressure (VLPP). Cystometry was performed without retraction of the prolapse. However, the prolapse was retracted during measurement of VLPP. Most of the urodynamic investigations in this study were performed according to ICS 'Good Urodynamic Practice' guidelines after it was published [4] and the ICS terminology was used for all definitions [5]. International Consultation on Incontinence Questionnaire - Short Form (ICIQ-SF) was used to assess the continence [6].

Surgical technique

All patients underwent sacrocolpopexy as previously defined [7] via transabdominal approach. The operations were performed

* Corresponding author at: Istanbul University-Cerrahpasa, Cerrahpasa School of Medicine, Department of Urology Floor:2 Fatih, 34144, Istanbul, Turkey.
E-mail address: drsinharib@yahoo.com (S. Citgez).

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Table 1
Preoperative datas.

	Group 1 (N:31)	Group 2 (N:30)	P Value
Age (year) Mean (± SD)	54.4 ± 11.5	58.4 ± 4.8	0.366
Number of delivery Mean (± SD)	2.9 ± 1.5	3.2 ± 1.7	0.416
Number of pregnancies Mean (± SD)	4.0 ± 2.3	4.1 ± 2.4	0.491
Body-mass index (BMI) Mean (± SD)	25.27 ± 4.8	24.82 ± 4.6	0.667
Previous history of anti-incontinence (Burch colposuspention) or prolapse surgery (anterior repair) • No • Yes	26 (83.9%) 5 (16.1%)	26 (86.7%) 4 (13.3%)	>0.99
Preoperative lower urinary tract symptoms • Voiding symptoms • Storage stmptoms	22 (70.9%) 9 (29.1%)	22 (73.3%) 8 (26.7%)	>0.99
Preoperative ICIQ- SF score Mean (±SD)	11.0 ± 3.6	12.0 ± 4.4	0.496
Occult urodynamic stress urinary incontinence • No • Yes	27 (87.1%) 4 (12.9%)	26 (86.7%) 4 (13.3%)	>0.99
Preoperative prolapse grade (Baden-Walker) Mean (±SD)	3.5 ± 0.5	3.5 ± 0.5	0.997

Table 2
Per- and postoperative outcomes.

	Group 1 (N:31)	Group 2 (N:30)	P Value
Blood loss (cc)	159.00 ± 9.838	156.50 ± 8.152	0.746
Operation time (min)	151 ± 5.073	149 ± 10.511	0.782
Postpperative ICIQ- SF score Mean (±SD)	0.2 ± 0.1	0.2 ± 0.1	0.997
Postoperative prolapse grade (Baden-Walker) Mean (±SD)	3.5 ± 0.5	3.5 ± 0.5	0.998
Concomittant TOT procedure • No • Yes	27 (87.1%) 4 (12.9%)	26 (86.7%) 4 (13.3%)	>0.99
Uterus preservation • No • Yes	28 (90.3%) 3 (9.7%)	28 (93.3%) 2 (6.7%)	>0..99
Hospitalization time (day)	4.0 ± 0.145	3.95 ± 0.387	0.796
Follow-up time (mo)	21.4 (12-36)	21.8 (12-36)	0.726
Success (%)	29/31 (93.5%)	28/30 (93.3%)	0.89
Postoperative complications according to Clavien Classification	5 (16.1%)	5 (16.6%)	
Constipation (Grade 1)	1 (3.3%)	1 (3.3%)	>0.05
Ileus (Grade 2)	2 (6.4%)	1(3.3%)	
Pelvic pain (Grade 2)	2 (6.4%)	2 (6.7%)	
Sacroiliitis (Grade 3)	–	1 (3.3%)	

under general anesthesia. We used type 1 polypropylene mesh (monofilament, macroporous) which is fashioned into simplified configurations. The shape of the cavity was made according to whether the operation was uterine protector. If concurrent anti-incontinence surgery was required, transobturator tape insertion was performed. In patients with protected uterus, malignancy screening was performed before the operation. All operations were performed by two surgeons (SC, MO) whom were interested with urogynecologic suregeries.

Success or failure was determined by physical examination. The presence of stage 2 prolapse or more at any anatomic site was considered as failure. Otherwise, women were classified as objectively cured. Women reporting no prolapsed symptoms and satisfied were classified as subjectively cured. Perioperative and postoperative complications were documented based on the Dindo and Clavien Classification [8].

Statistical analyses

Statistical analyses were done using Mann-Whitney U test and Fisher's exact test with SPSS version 21.0 (SPSS Inc, Illinoin, USA) computer package program, Microsoft Ofiice Excel 2010 program. A p value under 0.05 was considered as statistically significant. The study was approved by Istanbul University-Cerrahpasa, Cerrahpasa School of Medicine Ethics Committee (83045809-604.01.02-7104).

Results

The mean follow-up time was 21.4 (12–36) and 21.8 (12–36) months for Group 1 and Group 2, respectively (p = 0.72). ASC with uterus preservation was performed in 3 and 2 patients for Group 1 and Group 2, respectively (p = 0.67). The mean estimated blood loss and length of hospitalization were similar in both groups (Table 2). The median operation time was 151 ± 5.073 and 149 ± 10.511 min for Group 1 and 2, respectively (p = 0.78). Occult urodynamic stress urinary incontinence was deteceted in 4 patients for both Group 1 and Group 2. Concomitant transobturator tape surgery was performed these patients and all women were continent after the procedure. The median ICIQ-SF score was decreased from 11.5 to 0.2. De novo overactive bladder or de novo bladder outlet obstruction was not seen in any patients.

The objective cure rates were similar for Group 1 and Group 2 (93.5% vs 93.3%, p:0.89). Grade 2 prolapse was seen in 2 patients for both Group 1 and 2, respectively at follow-up period. The subjective cure rates were also similar for Group 1 and Group 2 (90.3% vs 90.0%, p = 0.91). One patient in Group 1 had prolapse recurrence on early follow-up. This patient were underwent sacrospinous fixation. Also, 1 patient in Group 2 had anterior prolapse recurrence and this patient was underwent anterior repair. There was no problems for these patients after the second operations. The others are being followed-up by placing a pesser.

The complication rates were 16.1% and 16.6% for Group 1 and Group 2, respectively and there was no statistically difference between two groups (p > 0.05). Paralytic ileus as Grade 2 complication was seen in 2 of Group 1 and 1 of Group 2 on the perioperative period. They were recovered with conservative treatment. De novo constipation as Grade 1 complication was seen in 1 of the cases for Group 1 and 2, respectively at the postoperative period. Persistent pelvic pain as Grade 2 complication was seen in 2 of the patients for both groups and these patients received long term non-steroidal anti-inflamatuary drug therapy. Sacroiliitis as Grade 3 complication was seen in 1 of the patients for Group 2 and the mesh was removed from the patient. There was not any other complication after the procedures.

Comment

After Lane reported the sacrocolpopexy; abdominal approach in 1962 [9], many authors have presented studies, assessing anatomical and functional outcomes of sacrocolpopexy. According to these studies, sacrocolpopexy has proven to be an effective and safe approach for management of apical POP. The success rates were found to be 80–94% for ASC [10,11]. Also, level one evidence suggests that overall sacrocolpopexy performed by the urologist or gynecologist is associated with lower risk of recurrent prolapse on examination [12]. In our study, both seniors are staffed at the

university hospital and the time they had in the profession was similar. The objective cure rates were 93.5% vs 93.3% for Group 1 and Group 2 and there was no statistically significant difference between two groups (p = 0.89). As a result, we have found that the results of two different surgical branches performing ASC for apical POP are similar. Seniors in both the urology and gynecology branches perform ASC to manage their patients successfully.

One of the strengths of our study was the similarity of demographic data in Group 1 and 2. In addition, using the inquiry form such as Baden-Walker classification and ICIQ-SF in evaluating anatomic and functional results are other strengths of the study. Preoperative evaluation and examination of the patients were done by surgeons who performed the operations. Both groups used the same type and configuration of mesh. The operation technique was similar in both groups. In this way, we had the chance to compare two groups with similar homogeneity. When we determine the results, this study showed that performing by a gynecologist or urologist does not affect the outcomes of women who have had sacrocolpopexy.

ASC with uterus preservation, has been one of the most commonly used methods in uterine conservative surgeries in recent years. In this approach, long-term success results were reported as 93.3%–95% in the literature [13]. Previously, surgeons who performed hysterectomy in these patients, were too high [14]. However, due to the deterioration of the pelvic floor structure after hysterectomy and consequent voiding and intestinal problems, hysterectomy has been replaced with uterine protective methods in recent years [15]. Also, many of the women wish functional protection of the uterus. In fact, a number of factors should be considered if the uterus is to be protected. The first is the expectation of pregnancy. Second, risk assessment for cervical and uterine disease should be performed. Third, it is necessary to state in detail that the patient is in need of screening for gynecological diseases. Uterine sparing surgery may be recommended after all. In addition, the duration of operation and the length of hospital stay were shorter and the amount of bleeding was less in cases where the uterus was protected. ASC with uterus preservation was performed in 3 patients for Group 1 and 2 for Group 2 (p = 0.67). There was no prolapse recurrence in these patients at the follow-up period. We have demonstrated the efficacy of the uterus preserved procedure with ASC in both branches in this study.

Concomitant anti-incontinence surgery can be performed with pelvic organ prolapse surgeries. Although there are many opinions about the necessity of anti-incontinence surgery during the repair of prolapse to women who had no stress urinary incontinence, there is no common idea about this subject [2,11]. Although it is reported that concomitant prophylactic anti-incontinence surgery with ASC reduces postoperative incontinence, it is also found in studies reporting the opposite [16]. In our study, 4 patients in Group 1 and 4 in Group 2 with positive stress test or urodynamic stress urinary incontinence (USTIC) were underwent concomitant anti-incontinence surgery. There is no consensus on which of the anti-incontinence surgeries should be performed with prolapse surgery. In addition, routine urodynamics before prolapse surgery is also a controversial issue. Asfour et al found that preoperative evaluation of patients with pelvic organ prolapse whom were asymptomatic for urinary symptoms should include questionnaire forms and urodynamic investigation before the surgery [17]. They found that, the management of 25% of the patients without urinary symptoms will be changed after urodynamic investigation. Nevertheless, Hwang et al concluded that urodynamic investigation and using physical exam are equivalent and concordant to demonstrate occult stress urinary incontinence [18]. For this reason, it is not necessary to perform urodynamic investigation to all patients before the prolapse surgery according to that study. However, we performed urodynamics investigation to all patients, preoperatively. Finally, we performed TOT insertion to 8 patients with USTIC. Our study showed that when TOT was performed with ASC, recurrence of prolapse or urinary incontinence were not seen in both the gynecology and urology branches at follow-up period.

The complications after ASC may impair the quality of life of patients. Among the complications seen after ASC, those related to gastrointestinal system are over 1% in the literature. These include postoperative ileus, small bowel obstruction, de novo constipation. Although some studies suggest a high rate of postoperative bowel dysfunction, few data were reported about the effects of sacrocolpopexy on bowel function [19,20]. The risk factors for gastrointestinal complications are not fully known. However, Whitehead et al found the older age as a risk factor for ileus or small bowel obstruction [21]. They also conclude that the risk of serious adverse gastrointestinal events that result in extended hospitalization time or re-operation is within the range of other urogynecological procedures by laparatomy. In our study, gastrointestinal complications were 9.7% for Group 1 and 6.6% for Group 2. Postoperative constipation as Grade 1 complication according to the Clavien Classification was seen in 1 patient for both Group 1 and 2, respectively. Paralytic ileus as Grade 2 complication was seen in 2 of Group 1 and 1 of Group 2 on the perioperative period. They were recovered with conservative treatment. With these findings, it can be considered that the gastrointestinal complications are similar, independent of the surgical branch.

Another important complication for the pelvic organ prolapse operations is mesh erosion. Although the factors involved in the development of mesh erosion are not clear, the experience of the surgeon and the quality of the synthetic material used are important. Since the mesh is used in ASC, mesh erosion can also be seen in this approach. However, mesh erosion rates for ASC is much less than vaginal interventions [22]. In the recent update of the FDA, mesh erosion in abdominal interventions was reported to be approximately 4% [23]. The deterioration of the integrity of the vaginal mucosa, the involvement of the vaginal flora with the abdominal area increases the risk of development of mesh-induced complications. In our study, mesh erosion was developed in one patient (3.3%) for Group 2. For this reason, a second operation was performed and the mesh was removed. As a result, patients should be closely monitored in the postoperative period due to the risk of mesh erosion and evaluated by physical examination at each visit in terms of mesh erosion. In addition, we did not encounter any other major complication in our study.

Although there is no standard definition for prolapse recurrence, a prolapse extending beyond the hymen or the onset of new prolapse symptoms in any patient is regarded as a recurrence [24]. Jeon et al performed ASC to 57 patients with POP and reported the outcomes with a mean follow-up of 66 months [25]. They reported no POP-Q grade 2 or more cases of apical recurrence. The authors attributed the relapse rate to the operation technique. Thus, recurrence rates after ASC operation have been reported 0%–13% in the literature [10,11]. In our study, the recurrence rates were found as 6.5% and 6.7% in Group 1 and Group 2, respectively. One patient in Group 1 had prolapse recurrence on early follow-up. This patient were underwent sacrospinous fixation. Also, 1 patient in Group 2 had anterior prolapse recurrence and this patient was underwent anterior repair. The other patients who had recuurence were followed-up with pesser. After sacrocolpopexy operations, there may be recurrence due to technical reasons or factors related to patients. In our study, it is difficult to say that prolapse recurrence was due to technical reasons. Because all the operations in our study were performed by the same surgeons. In the literature, Linder et al found younger age and prior hysterectomy as risk factors for recurrent prolapse symptoms [26]. In our study, 2 of the recurrent patients in Group 1 had prior hysterectomy. The other 2 patients in Group 2 had history of diabetes mellitus. Also the mean follow-up time was 21.4 (12–36) and 21.8 (12–36) months for Group 1 and Group 2, respectively

(p = 0.72). Considering this, it can be specify that anatomical outcomes of ASC are sufficient independently from the surgical branch.

Although, this study was a comparative study, it has several limitations. The most important limitation of our study was the retrospective design. Second, the surgeries were performed by a single surgeon for both Group 1 and 2, this also caused surgical heterogeneity. However, all surgeons were experienced for urogynecologic operations. Other limitation of our study is the lack of long-term outcomes. Nevertheless, our early-term outcomes were similar with existing literature. Despite these limitations, our results suggest that ASC has similar outcomes for performed by gynecologist and urologist. Future studies should be prospectively designed to overcome existing limitations.

In conclusion, we found that the outcomes of ASC operations performed by two different branches were similar in this study. ASC is a safe and effective treatment approach in the management of apical POP independently of the surgical branch. Further prospective and randomized controlled studies including large series of patients are needed.

Disclosures

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