

# Results of Abdominal Sacrocolpopexy and Le Fort Colpocleisis: Our Experiences at Urology Clinic

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## Abstract

**Introduction:** Pelvic organ prolapse (POP) can be the source of discomfort for women, leading to issues such as urinary incontinence, discomfort from herniated organs, and sexual dysfunction. In this study, our aim is to share our experiences with abdominal sacrocolpopexy and colpocleisis.

**Materials and Methods:** In the study, 28 patients who underwent POP surgery between January 1, 2011 and November 1, 2022 were included. All patients had POP-Q stage 3 and above. Age, comorbidities, previous gynecological operations, history of prolapse and urinary incontinence surgery, and quality of life were recorded. In the postoperative period, the patients were followed up in terms of complications, incontinence and recurrence.

**Results:** A total of 28 patients underwent surgical treatment for POP, with 22 undergoing abdominal sacrocolpopexy and 6 undergoing Le Fort colpocleisis. Since 17 of the patients undergoing sacrocolpopexy had stress urinary incontinence, additional Burch colpo suspension was applied. Two patients who underwent sacrocolpopexy developed de novo urge incontinence. These patients benefited from medical treatment. No cases of incontinence developed in the colpocleisis group. There were no recurrences observed in any of the cases.

**Conclusion:** Abdominal sacrocolpopexy and colpocleisis are methods with high success and satisfaction rates. Colpocleisis surgery stands out with shorter hospital stay. These patients should be well informed in terms of sexual life, and if there is concomitant stress urinary incontinence, it is recommended to perform the necessary surgery before colpocleisis. For sacrocolpopexy, the patient should be well informed about mesh and related complications beforehand.

**Key words:** Pelvic organ prolapse; uterine prolapse; cystocele; urinary incontinence

## Introduction

Pelvic organ prolapse is the herniation of pelvic organs through the vagina. POP is acknowledged as a condition that can significantly impact the quality of life for women. POP leads to issues such as urinary incontinence, discomfort from the palpable prolapse, sexual impairment, and chronic pelvic pain. Among the risk factors are body mass index, a history of gynecological surgeries, the history and number of both normal and challenging childbirths, as well as age and menopausal status (1). In studies on anatomical prolapse, POP was found in approximately half of elderly patients, however, symptomatic instances were observed less frequently (2). It is recommended to conduct vaginal assessment with a speculum and perform POP grading using the POP-Q system during physical examinations (3). Data regarding the superiority of surgical

procedures in terms of effectiveness and safety in symptomatic cases are insufficient (4). There is no consensus on whether simultaneous anti-incontinence surgery should be performed, regardless of the presence of accompanying incontinence (5). Abdominal sacrocolpopexy is effectively employed in the treatment of advanced-stage pelvic organ prolapse (POP) among reconstructive therapies. It is based on the principle of attaching a synthetic mesh to the sacral anterior longitudinal ligament to secure the vaginal apex (6). Le Fort colpocleisis, on the other hand, is an obliterative vaginal surgical procedure used in the treatment of POP. It is a surgical option to be considered for elderly patients with comorbidities who do not prioritize vaginal sexuality (7). This study aims to present our clinical experiences with abdominal sacrocolpopexy and Le Fort colpocleisis in the realm of pelvic organ prolapse surgery.

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**Table 1:** Sarcocolpopexy and Colpocleisis Results

	Abdominal sacrocolpopexy	Le Fort colpocleisis	Total
Number of Patients	22	6	28
Accompanying stress urinary incontinence and for this continence surgery	17	0	17
Recurrence Status	0	0	0
De Novo Incontinence	2	0	0
Satisfaction	%91	%100	%92,8

## Materials and Methods

The study comprised 28 patients who underwent surgery for symptomatic pelvic organ prolapse (POP) from January 1, 2011, to November 1, 2022. All patients had a POP-Q stage of 3 or higher. Urinary incontinence, comorbidities, previous gynecologic operations, age and quality of life query was made. In all patients with POP, a reduction of POP was performed preoperatively by placing a speculum and a vaginal sponge in the vagina (pessary test), and they were assessed for masked stress urinary incontinence. Simultaneously, patients with urinary incontinence underwent anti-incontinence surgery. Patients planned for colpocleisis were informed that vaginal intercourse would not be possible permanently after the operation. Permission was obtained from Pamukkale University non-interventional Clinical Research Ethics Comitee for the study.

**Surgical procedure:** In abdominal sacrocolpopexy, a median incision was made below the umbilicus after foley catheter insertion. The peritoneum was opened, and the intestines were gently retracted. The uterus was dissected anteriorly and posteriorly, exposing it. In cases involving hysterectomy, the vaginal cuff was dissected anteriorly and posteriorly. A Y-shaped mesh was prepared, with the anterior part secured to the cervix by suturing it up to the bladder neck. In the posterior part, the mesh was secured to the cervix by dissecting the Douglas. In hysterectomy cases, the mesh was attached to the anterior and posterior aspects of the vaginal cuff. The promontorium was identified, and the posterior peritoneum was opened to secure the opposite end of the mesh to the promontory. The mesh was anatomically positioned at both ends and anchored with prolene sutures. The peritoneum was then closed, burying the mesh within. In patients with stress urinary incontinence (SUI),

the midurethra was fixed to both Cooper's ligaments from the lateral and medial parts with sutures. The Foley catheter was removed on the first postoperative day, and patients were discharged on average by the third day. Prior to colpocleisis, pelvic structures were assessed by the obstetrics and gynecology department for the malignancy exclusion, and no risk was identified. Patients had not undergone previous hysterectomy, and simultaneous hysterectomy was not performed. Before the procedure, cystoscopy was conducted, and a foley catheter was inserted. Pelvic prolapse in the anterior and posterior regions was incised following the Le Fort technique. Mucosa was dissected proximally on both sides. A 14-16 Fr Nelaton catheter was placed transversely at the cervix. The ventral and dorsal aspects of the prolapsed vagina were sutured from proximal to distal over the Nelaton catheter, burying the cervix inward. This resulted in the anatomical placement of the uterus. The Foley catheter was taken out the day after surgery, and patients were discharged on the same day. During the postoperative period, patients were monitored for complications, incontinence, and recurrence.

**Statistical analysis:** The data was analyzed using SPSS 25.0 statistical software package. Number, percentage, average and minimum-maximum expressions were used for descriptive statistics.

## Results

POP surgery was performed in a total of 28 patients. Sacrocolpopexy was performed on 22 patients. Le Fort colpocleisis was performed on 6 patients. In sacrocolpopexy, mesh was secured to the vaginal cuff in cases where 4 patients had undergone a previous hysterectomy. Among the remaining 18 patients, mesh was secured to the cervix. Seventeen patients who underwent sacrocolpopexy had accompanying stress urinary

incontinence. For whom additional procedures included Burch colposuspension and, when necessary, lateral defect repair. Among the 6 patients who underwent Le Fort colpocleisis, preoperative testing did not reveal urinary incontinence. During follow-ups in this group, no recurrences or de novo incontinence were observed, and all patients reported satisfaction. Prophylactic continence surgery was not performed on the included patients. Among the 22 patients who underwent sacrocolpopexy, de novo urge incontinence occurred in two cases, which notably improved with medical treatment. One patient experienced postoperative constipation, which resolved with conservative management. Overall patient satisfaction was high, with a rate of 26 out of 28 (92.8%). There were no recurrences observed in any of the cases.

## Discussion

The descent of pelvic organs, caused by pelvic pressure through the vaginal opening, can lead to discomfort and issues such as urinary dysfunction, urinary incontinence, and sexual dysfunction (3). Symptomatic pelvic organ prolapse (POP) patients may undergo reconstructive or obliterative surgical treatments (8). In our study, we evaluated the results of abdominal sacrocolpopexy and Le Fort colpocleisis performed at our clinic for patients experiencing functional discomfort due to POP. In patients with advanced-stage pelvic organ prolapse (POP), masked urinary incontinence has been observed in 36-80% of cases during examinations (9). Masked stress urinary incontinence due to pelvic prolapse can be assessed by bringing the prolapse back to its normal anatomical position using a pessary during the preoperative period, followed by a stress test. While this method allows for the prediction of masked urinary incontinence, its disadvantage lies in its application in a lying position, not providing a complete simulation in a standing position (10). At our clinic, patients with functional discomfort due to POP are examined for masked urinary incontinence by reducing the prolapse with a speculum and vaginal sponge before surgery. Upon reviewing our results, simultaneous urinary incontinence was observed in 17 out of 22 patients (77%) who underwent abdominal sacrocolpopexy. Among reconstructive procedures, sacrocolpopexy stands out for its lower recurrence rates compared to vaginal reconstructive POP repair. It can be implemented through laparoscopic sacrocolpopexy (LSC), robotic sacrocolpopexy (RSC) or open abdominal surgery (8). Currently, minimally invasive procedures are more popular. LSC has a

challenging learning curve, while RCS involves high costs (11). Abdominal sacrocolpopexy has the disadvantage of a longer hospital stay. In centers where RSC and LSC are not feasible, it remains a viable option due to its lower cost and comparable complication rates (12). In patients who underwent sacrocolpopexy, it has been observed that symptoms requiring repeat POP surgery did not develop at levels as high as 95% (6). In this study, there were no cases of recurrence observed among patients who received abdominal sacrocolpopexy. There was insufficient discussion regarding concurrent SUI surgery. It has been suggested that delayed midurethral sling surgery can be performed following minimally invasive procedures (13). In patients with accompanying urinary incontinence, Burch colposuspension can be applied alongside abdominal sacrocolpopexy. There are varying approaches regarding the prophylactic use of Burch colposuspension in patients without preoperative complaints of urinary incontinence. Some surgeons opt for prophylactic anti-incontinence surgery, while others reassess in case of newly developed incontinence in the postoperative period (5). When examining urinary incontinence before and after POP surgery, findings show that the rate of incontinence can either decrease or worsen. Therefore, it is crucial to share these possibilities with the patient and plan the treatment together (14). Sacrocolpopexy provides a high rate of improvement in symptoms related to POP, but anatomical support can deteriorate over time. Women with POP may experience accompanying stress urinary incontinence. Adding an incontinence preventive surgical technique to women with preoperative continence reduces the risk of de novo stress incontinence but does not eliminate it entirely. Surgical counseling regarding mesh is essential for patients (6). It is known that de novo urge incontinence can develop in about 10-13% of cases after surgical procedures for stress urinary incontinence (10). In our study, prophylactic anti-incontinence surgery was not performed in patients without urinary incontinence. For masked urinary incontinence, a pessary was inserted during prolapse examination, followed by a stress test. Burch colposuspension surgery was added for patients with urinary incontinence. Patients were informed about de novo urge and stress incontinence during the preoperative period. In 2 patients (9%) who underwent sacrocolpopexy, de novo urge incontinence developed. Both patients reported benefiting from conservative and medical treatments, expressing satisfaction with the surgery, and no further intervention was needed.

Despite being informed in advance about the possibility of de novo urge incontinence, patients who developed new incontinence expressed some dissatisfaction. Informing patients about the possibility of de novo urge and stress incontinence before POP surgery is crucial for patient satisfaction. Colpocleisis is a vaginal obliterative surgical procedure for pelvic organ prolapse (POP). Its major drawback is the inability to engage in vaginal intercourse post-surgery. It may be preferred by patients who do not desire mesh, have no plans for future vaginal intercourse, and have numerous accompanying diseases. Even in the 21st century, it can be considered among treatment options with low dissatisfaction and low complication rates (8, 10). Informing patients about the impact on their sexual life is crucial (15). We informed our patients about the impossibility of vaginal intercourse before the surgery. Since Le Fort colpocleisis is an obliterative surgery, it can make cervical and endometrial examinations challenging afterward. Imaging and sampling are recommended before the procedure in high-risk patients (10). In our study, we requested consultation from obstetrics and gynecology for gynecologic pathology and malignancies for all patients in whom Le Fort colpocleisis was planned. Colpocleisis was performed for patients in whom gynecologists did not consider risk. In POP surgery with colpocleisis, the short hospital stay and success rates reaching 100% stand out. Following colpocleisis, the occurrence of de novo incontinence are approximately 20% (16). Sling procedures performed alongside Le Fort colpocleisis for SUI have not been associated with high post-void residual volume (17). Another advantage of Colpocleisis is its applicability in elderly populations where general anesthesia carries risks, as it can be performed under local anesthesia and sedation (18). The recurrence of POP may be associated with the long and wide of the vagina (7). All patients who underwent colpocleisis in our study expressed satisfaction with the surgery. None of the patients required additional surgery due to POP, and de novo incontinence was not observed. None of the patients regretted the loss of sexual function. The high satisfaction rates in our study can be attributed to the fact that patients were adequately informed in advance. We can say that patient information is very important as in any surgery plan. Both surgical techniques have a success rate of over 90% and are considered among the treatment alternatives. In our clinic, we observe that both techniques result in a recurrence-free outcome, and satisfaction with POP surgery is high. Two patients who developed de novo urge

incontinence expressed some dissatisfaction. Overall, our POP surgery has no cases of recurrence and the total satisfaction rate is at 92%. This study has limitations such as its retrospective design and low patient volume. Due to being a single-center study, its generalizability is also limited. The patients discontinued follow-up due to lack of complaints. The duration of follow-up discontinuation was not noted. Since no patients underwent simultaneous hysterectomy, a comparison with surgical procedures involving hysterectomy could not be made. Moreover, numbers of the patients in each group was not homogeneous. Although our study is limited, we believe that it will serve as a resource for larger number of patients studies. It will also contribute to the ongoing debate in the literature on the applicability of traditional surgical methods.

## Conclusion

Abdominal sacrocolpopexy and colpocleisis are applicable surgical techniques for POP cases. These methods boast high rates of success and patient satisfaction, alongside low rates of complications. Both methods have their advantages. Colpocleisis surgery stands out with a shorter hospital stay. For sacrocolpopexy, patients should be informed in advance about mesh and related complications. Patients should also be informed about de novo incontinence for both methods. Considering the surgeon's expertise and the patient's preferences, the suitable surgical technique can be selected

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**Ethical approval:** The study received approval from the Pamukkale University Non-Interventional Clinical Research Ethics Committee and performed in accordance with the Declaration of Helsinki (Approval Date: 30.04.2024; No: 08).

**Conflict of interest:** The authors have no conflict of interest related to this study.

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