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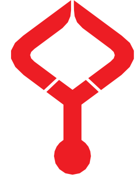

Research Article

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Evaluation of patients undergoing colpocleisis: A single-center experience

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Abstract
The aim was to evaluate patients who underwent colpoclesis due to pelvic organ prolapse (POP). This cross-sectional study included patients who had undergone colpoclesis surgery. Age, gravity, parity, systemic diseases, examination findings, anesthetic methods used, surgical complications, additional operations, and length of hospital stay were recorded. At evaluation, patients were divided into two groups: partial colpoclesis and total colpoclesis. The mean age of patients was 73.25±5.45 (60-80), gravidity was 4.58±2.38 (2-11), and parity was 4.08±1.45 (2-7). While uterine prolapse was observed in 47 (97.9%) patients, one patient was found to have vaginal cuff prolapse. Partial colpoclesia was performed in 28 (58.3%) of the patients. While 16 of the patients (33.3%) had no additional systemic disease, the remaining patients had at least one systemic disease, with hypertension being the most common at 58.3%. Twenty-eight of the patients (58.3%) underwent surgery under general anesthesia and the rest under spinal anesthesia. While no postoperative complication occurred in 46 (95.8%) of the patients, blood transfusion (erythrocyte suspension) was observed in one patient and delirium was observed in another patient after surgery. The postoperative discharge time of patients was 3.66±2.10 (2-9) days. Statistically significant differences were found between the partial and total colpoclesis groups in terms of age, gravity and parity (p=0.002, p=0.022, and p=0.030, respectively). There were no significant differences between groups in discharge time (p = 0.143) and type of anesthesia (p=0.104). Colpoclesis surgery can be safely performed in elderly patients diagnosed with pelvic organ prolapse who are not sexually active. This method should be recommended as an option, especially in patients with complicated systemic diseases. Although short-term serious complications are not uncommon in patients, routine follow-up of patients with partial colpoclesis for long-term complications should be continued.

Keywords: colpoclesis, pelvic organ prolapse, hysterectomy, pelvic floor disorder, LeFort

1. Introduction

Protrusion of pelvic organs (uterus, rectum, bladder) toward or out of the vagina is called pelvic organ prolapse (POP). The main purpose of treatment POP is to improve symptoms, and reconstructive or obliterative surgical approaches are available (1, 2). The treatment approach depends on the patient's expectations and preferences. Colpocleisis is an obliterative method in which the vaginal canal is closed and the pelvic organs are returned to the pelvis. It can be performed by two methods: partial (LeFort) and complete (1). It can be recommended for older women who no longer want to use the vagina for sexual intercourse, for women who want to avoid hysterectomy, and for patients who prefer surgery with the lowest risk of complications and a short duration (2,3). The advantages of this surgery are its short duration, minimal blood loss, rapid discharge from the hospital, and the fact that only local anesthesia is required. However, it also has disadvantages, such as the lack of sexual activity after the procedure, the development of de novo incontinence or urinary incontinence, and the impossibility of taking an endometrial biopsy because the cervical canal cannot be reached (4). Cervical lesions should be evaluated and treated as appropriate before prolapse repair (2). The procedure has a high success rate and long-term patient satisfaction (3).

The aim of the present study was to evaluate the demographic characteristics and surgical methods of patients who underwent colpocleisis due to POP in our clinic.

2. Materials and Methods

Patients undergoing colpocleisis due to POP in the Department of Obstetrics and Gynecology at the Gaziosmanpasa University Faculty of Medicine between 2015 and 2021 were included in the study. Medical history, age, gravidity, parity, systemic diseases, examination results, anesthesia methods used, surgical complications, additional surgeries, and length of hospital stay were recorded in the patients' records.

All patients who had undergone colpocleisis and whose data were accessible were included in the study. All patients who were diagnosed with pelvic organ prolapse (POP -Q) were classified as grade 3-4 prolapse, and the surgical method used was partial and total colpocleisis. Patients were divided into two groups, partial colpocleisis and total colpocleisis.

In partial colpocleisis, a rectangular area on the anterior and posterior vaginal walls was marked and excised with a scalpel, and bleeding was controlled with a cautery. A 2-cm-deep bilateral vaginal mucosal bridge was created to create a lateral tunnel. The tunnel walls were sutured with late absorbable sutures. The posterior and anterior layers of the vaginal muscles were sutured together. After the uterus and

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vagina were inverted, the upper and lower edges of the rectangle were sutured, and the vagina was obliterated.

Total colpocleisis was performed in patients who had already had a hysterectomy or who were scheduled for a hysterectomy in addition to surgery. In the surgical procedure of total colpocleisis, all vaginal walls were incised circularly with a scalpel to the edge of the vaginal cuff, taking into account the borders of the bladder above and the rectum below, and then cautery was used to ensure hemostasis. The muscularis layers were sutured together. The vaginal epithelium was closed transversely. Patients who underwent surgery at an external center and were referred to our center and whose information could not be obtained were excluded from the study.

The study was approved by the local ethical committee of Tokat Gaziosmanpaşa University (2022/04 22-KAEK-023).

Descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum) were used in the analysis of the study data to obtain information on the general characteristics of the groups. Differences between groups were analyzed for quantitative values using the independent samples t-test and for qualitative values using Fisher's exact chi-square test. It was considered statistically significant when p values below 0.05 were calculated. Prepackaged statistical software IBM SPSS Statistics 19 was used for statistical analysis. Ethical approval was obtained before the study.

3. Results

The study found that 48 female patients underwent colpocleisis due to POP. The mean age of these patients was 73.25±5.45 (60-80), gravidity was 4.58±2.38 (2-11), and parity was 4.08±1.45 (2-7). Twenty-eight of the patients (58.3%) underwent partial colpocleisis (LeFort). All patients had undergone a normal vaginal delivery. While 47 patients (97.9%) had uterine prolapse, one patient had vaginal cuff prolapse. Vaginal hysterectomy was performed in 19 patients who underwent total colpocleisis, and TOT (transobturator tape) was applied as an additional surgery in one patient who underwent partial colpocleisis. While 16 patients (33.3%) had no additional systemic diseases, the remaining patients had at least one systemic disease, with hypertension being the most common systemic disease at 58.3%. Twenty-eight patients (58.3%) underwent surgery under general anesthesia, and the remaining patients underwent surgery under spinal anesthesia. While no postoperative complications occurred in 46 patients (95.8%), blood transfusion (red blood cell suspension) was observed in one patient and delirium was observed in one patient after surgery. The postoperative discharge time of the patients was 3.66±2.10 (2-9) days. The demographic characteristics of the patients are shown in table 1. When the patients who had undergone partial and total colpocleisis were evaluated by dividing them into two groups, there were statistically significant differences between the groups in age, gravidity, and parity (p = 0.002, p = 0.022, and p = 0.030, respectively). No significant differences were found between groups in terms of discharge time (p = 0.143) and type of anesthesia (p = 0.104).

Table 1. The patients' demographic characteristics

	Total Kolpoklezis (n=20)	Parsiyel Kolpoklezis (n=28)	p
Age (year)	69.40±6.09 (60-78)	76.00±2.94 (72-80)	0.002*
Gravity	3.40±0.52 (3-4)	5.43±2.87 (2-11)	0.022*
Parity	3.41±0.52 (3-4)	4.57±1.74 (2-7)	0.030*
Discharge time (day)	3.00±1.15 (2-5)	4.14±2.45 (2-9)	0.143

Values are expressed as mean ± standard deviation (minimum-maxium).
p: Independent Sample T-Test. * p value is significant at the 0.05 level ($p<0.05$)

4. Discussion

Nowadays, the incidence of POP is predicted to increase with the increasing life expectancy of women. Mortality and morbidity rates are higher in elderly patients undergoing urogynecologic surgery for POP than in young patients (5). In elderly patients with symptomatic POP and high morbidity, surgical intervention must be carefully selected and performed (6). If there is an alternative treatment (such as a pessary) to surgery in this group of patients, it may be considered in the first instance. However, this alternative treatment does not definitively eliminate POP, and long-term use of this treatment is uncomfortable for the patient (7). Colpocleisis is a valuable surgical procedure for patients with prolapse who have undergone unsuccessful reconstructive surgery and no longer desire sexual intercourse (8,9).

The colpocleisis method ensures that the POP operation is both simple and short. It also has a significantly lower recurrence rate than reconstructive methods. Although there is no large-scale study on this topic, the success of colpocleisis varies from 91% to 100% (10,11). In our study, patients were examined a total of 3 times, at the first postoperative week, first month, and first year, and no recurrence was observed in any patient. The ability to perform the procedure under local anesthesia and the short hospital stay are also major advantages of colpocleisis (12). In our study, it was found that patients were operated under general and spinal anesthesia. This was attributed to the fact that the surgery was performed in the general operating room of our hospital and patients did not desire local anesthesia under these conditions.

Colpocleisis is associated with general complications in terms of mortality and morbidity. The most common complication is the need for blood transfusion after surgery. Venous thromboembolism, pulmonary embolism, hypovolemic shock, heart failure, sepsis, and psychiatric disorders can be mentioned as other important complications (13,14). In our study, one patient developed a postoperative

hematoma. Because the hematoma was self-limiting, no additional procedure was performed on the patient, and blood substitution was subsequently performed. In a retrospective study of 1104 women who had undergone urogynecologic surgery by Solomon et al, the incidence of venous thromboembolism was reported to be 0.3% (15). All patients in the study wore antithromboembolic stockings for prophylaxis and received Low-molecular-weight heparin (LMWH) appropriate doses postoperatively. None of the patients experienced a thromboembolic event. One patient had postoperative delirium. The higher average age of patients in the partial colpocleisis group compared with the complete colpocleisis group was attributed to the fact that this method was used to shorten the duration of the procedure and keep the risk of complications to a minimum.

Urinary incontinence may develop after colpocleisis (16). The occurrence of new postoperative incontinence or worsening of preexisting incontinence was noted by Hoffman et al (17) in three of 27 patients and by Hanson et al (18) in twenty-two of 288 patients. One patient in the study had stage 3 uterine prolapse according to the POP -Q classification and stress incontinence. This patient underwent complete colpocleisis and TOT. At the patient's postoperative follow-up, her urinary incontinence improved and no recurrence was observed. No effect of colpocleisis on bowel function was reported, and von Pechmann (19) noted that rectal prolapse, although rare, may occur after surgery. Consistent with the literature, no problems with bowel function were noted in our patients.

Sexual desire has been shown to persist in advanced age (20), and Huang et al. reported that 30% of women older than 65 years continue to have moderate sexual desire (21). Women who are sexually active or considering being sexually active are more likely to prefer reconstructive procedures because the vaginal structure is preserved. However, patient satisfaction is higher with obliterative procedures, where both complications and recurrence of prolapse are less common (9, 10). We think that the advanced average age of the patients, the fact that 20 patients (83.3%) did not have a spouse and the rest did not want sexual activity facilitated the determination of the treatment method as colpocleisis. The limitations of our study are that it is retrospective and includes a small number of cases. After ruling out the risk of malignancy in POP patients, colpocleisis is an appropriate treatment option after comprehensive counseling considering sexual activity status.

Conflict of interest

The authors declared no conflict of interest.

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None to declare.

Authors' contributions

Concept: S.G., N.G., Design: S.G., N.G., Data Collection or Processing: S.G., N.G., Analysis or Interpretation: S.G., Literature Search: S.G., N.G., Writing: S.G., N.G.

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