Functional and anatomical results of colpocleisis 12 months after the surgery.

Kolpoklezis ameliyatının postoperatif 12. ayda fonksiyonel ve anatomik sonuçları.

Abstract

Aims: Colpocleisis is a vaginal obliterative procedure that is performed for the treatment of pelvic organ prolapse (POP), especially in elderly women. To evaluate the anatomical success rate, improvements in POP symptoms and urinary and defaecatory symptoms, and surgical satisfaction and regret of patient 12 months after colpocleisis.

Methods: Twenty-two females who underwent colpocleisis during 2013–2016 were evaluated retrospectively. Assessment of the pelvic organ prolapse quantification (POP-Q) system and the Pelvic Floor Distress Inventory (PFDI-20) preoperatively and at 1 year after surgery; the Surgical Satisfaction Questionnaire (SSQ-8) that include question related with the regret of surgery was also completed 1 year after surgery.

Results: Significant improvements in the total PFDI-20 score and subscale scores (all $p < 0.001$) were evident 1 year after colpocleisis; the POP-Q stage of all patients was ≤ 1, the SSQ-8 total score was 86. There is no regret because of the loss of sexual intercourse.

Conclusion: The anatomical and functional outcomes of colpocleisis were satisfactory 12 months after surgery.

Keywords: Colpocleisis, pelvic floor dysfunction, satisfaction, pelvic organ prolapse

Özet

Amaç: Kolpoklezis özellikle ileri yaştaki kadın hastalarda pelvik organ prolapsusu tedavisinde vajinanın oblitere edilmesi yöntemi ile yapılan bir ameliyattır. Araştrmanın amacı kolpoklezis ameliyatından 12 ay sonra pelvik organ prolapsusu semptomlarında, işeme ve defekasyon ile ilgili semptomlarda iyileşme, anatomik başarı, cerrahi memnuniyet ve ameliyat sonrası pişmanlığı değerlendirmek.

Gereç ve Yöntem: 2013-2016 yılları arasında Turgut Özal Tıp Fakültesi Kadın Hastalıkları ve Doğum Anabilim Dalında kolpoklezis ameliyatı yapılan ve yıllık kontrolerinde muayene edilen 22 hastanın sonuçları retrospektif olarak incelendi. Hastalara preoperatif ve postoperatif 1. yılda pelvik organ prolapsusu değerlendirme muayenesi (POP-Q) ve pelvik taban distress anketi-20 (PFDI-20) uygulandı ve postoperative 1. yılda 'ameliyat sonrasında pişmanlık yaşadınız mı?' sorusunu içeren postoperatif ameliyat memnuniyet anketi (SSQ-8) uygulandı.

Bulgular: Kolpoklezis ameliyatından 1 yıl sonra PFDI-20 skorlarında iyileşme izlendi ($p < 0.001$), tüm hastaların POP-Q sistemine göre evresi ≤1'di. Ameliyat sonrası memnuniyet skoru 86'ydı. Vajen obliterasyonuna bağlı pişmanlık hiçbir hastada izlenmedi.

Sonuç: Kolpoklezis ameliyatından 12 ay sonra anatomik ve foksiyonel sonuçlar tatmin edicidir.

Anahtar kelimeler: Kolpoklezis, pelvik taban disfonksiyonu, memnuniyet, pelvik organ prolaspsusu.

Introduction

By the year 2030, >22% of women will be aged 65 years with 3% being aged 85 years pelvic organ prolapse (POP) according to US Census Bureau projections report.[1] The rates of anaesthesia-associated and surgical complications are higher in older women because of comorbidities, but pelvic organ prolapse (POP), pelvic pain, urinary retention, defaecation dysfunction, and wounds of prolapsed tissue must be treated. Two surgical methods are available: conventional and obliterative (LeFort or total colpocleisis). The advantages of colpocleisis are the short operation time and hospital stay, minimal blood loss, and the need for local anesthesia only. However, the vagina is obliterated. The persistence of urinary stress, urge, and incontinence postoperatively remains debatable, especially in patients who exhibit occult stress urinary incontinence prior to surgery.[2] Vesicovaginal and rectovaginal fasciae are used to obliterate the vagina.

The purpose of the present study was to explore the impact of colpocleisis on defaecatory and urinary function, anatomical success, and surgical satisfaction at 1 year after colpocleisis. We collected demographic data, and information on intra- and post-operative complications.

Materials and Methods

We analysed 22 patients who underwent colpocleisis, with or without placement of a miduretral sling, in the Obstetrics and Gynecology Department of XXXXX University between February 2013 and February 2017. If a uterus was present, the Papanicolaou smear test and transvaginal sonography were performed before surgery, and the endometrium sampled if endometrial pathology was suspected. As all patients were older than 65 years, we used compression bandages as thromboembolism prophylaxes and proton pump inhibitors as stress ulcer prophylaxes. Ethics approval was obtained from the XXXX University Ethical committee (approval number 16917).

Preoperatively, we used the Pelvic Floor Distress Inventory-20 (PFDI-20) to evaluate pelvic prolapse symptoms and urinary and bowel function. The PFDE-20 is a 20-item questionnaire whose subscales are the POP distress inventory-6 (POPDI-6), the urinary distress inventory-6 (UDI-6), and the colorectal/anal distress inventory-8 (CRADI-8). [3] "No symptom" was scored 0, "not at all' 1, and "quite a bit" 4. The scores for each subscale ranged from 0 to 100, with higher scores representing greater distress.[4] Anatomical success was considered evident if the POP-Q stage was ≤1 at 1 year after surgery.

The SSQ-8 is an eight-item questionnaire. Questions 1 and 2 explore pain subscales, questions 3, 4, and 5 address the return to baseline status, and questions 6, 7, and 8 deal with global satisfaction. Patient subjective satisfaction was scored as 4 (very satisfied), 3 (satisfied), 2 (neutral) , 1 (unsatisfied), and 0 (very unsatisfied) 1 year after surgery. [5] The average of the eight scores is multiplied by 25 to yield an overall score of 0–100. The Turkish language version of the SSQ-8 has not yet been validated. All patients and their partners expressed no desire for vaginal intercourse. If urinary incontinence was evident and the stress test positive, anti-incontinence surgery was performed.

Demographic data, operation time, blood loss, intra- and post-operative complications, and hospital stay were recorded. All patients were examined 2 weeks after surgery and then annually; the PFDE-20 was completed during all examinations.

Surgery

LeFort colpocleisis

With the patient under local, spinal, or general anaesthesia, a rectangular area was marked at anterior and posterior vaginal walls for removal and lidocaine (2% with epinephrine) was injected below the marked walls. It was avoided that dissection beyond the urethrovesical junction preventing *de novo* stress urinary incontinence (SUI). A bilateral, vaginal mucosal bridge 2 cm in depth was preserved for creation of a lateral tunnel. The marked area was incised and removed, and tunnel walls created using interrupted, delayed absorbable sutures. A midurethral sling (a transobturator or single-incision sling) was placed if the patient exhibited SUI. The anterior and posterior vaginal muscularis layers were sewn together. After the uterus and vagina were inverted, the superior and inferior margins of the rectangle were sutured, the vagina obliterated, and perineorrhaphy performed. All operations were performed by the same surgeon.

ii) Total colpocleisis

Total colpocleisis was performed on patients who had previously undergone hysterectomies. Lidocaine (2% epinephrine) was injected prior to dissection of all vaginal walls (to the urethrovesical junction only). A midurethral sling (a transobturator or single-incision sling) was placed if the patient exhibited SUI. The muscularis layers were sewn together. The vaginal epithelium was transversely closed, and perineorrhaphy was performed. All operations were performed by the same surgeon.

Statistical analysis

Data are presented as means ± standard deviations, medians, or percentages. Student's t-test and the paired t-test were used to compare pre- and post-operation continuous data. A p-value <0.01 was considered to reflect statistical significance. All data were analysed with the aid of IBM SPSS Statistics version 22, 2013 (IBM Corp, Armonk, NY).

Results

Of the 22 colpocleises performed, 17 were LeFort, and 5 were total colpocleises. (Table 1).

The mean operation time for total colpocleisis was 52 min (range 45–55 min), and that for LeFort colpocleisis was 70.6 min (range 50–85 min) (Table 2).

The preoperative mean haemoglobin level was 12.1 g/dL, and the postoperative (2-h) value was 11.2 g/dL (thus, 0.9 g/dL lower). The median hospital stay was 2 days. The total PFDE-20 score and the subscale (POPDI-6, CRADI-8, and UDI-6) scores were improved significantly at 1 year post-operation (all $p < 0.001$) (Table 3).The POP-Q stage was ≥ 3 preoperatively and ≤ 1 at 1 year postoperatively. The anatomical success rate was 100% at 1 year. The SSQ-8 data are shown in Table 4. Only two patients suffered from urge incontinence at 1 year (but less so than preoperatively); their SSQ-8 scores were 70 and 51.

Discussion

LeFort colpocleisis was first described in 1877 by Leon LeFort, and the first total colpocleisis was performed by Herbert Adams. [6] The operation is favoured for older women with stage ≥3 POP and high complication risks because of comorbidities. (Figure 1) We encountered no serious complication (cardiopulmonary arrest, embolisation, death, or severe bleeding). Postoperative urinary tract infection was the most common complication. Three weeks after operation, pyometra developed in one patient and was treated via laparotomic hysterectomy. Sometimes, pyometra is treated via computed tomography- or ultrasound-guided drainage; this was not possible in our case because the abdominal findings were acute, so we scheduled emergency laparotomy. [7]

Postoperatively, the haemoglobin level fell by 0.9 g/dL. Bochenska et al. reported a 1.8% transfusion rate in 893 colpocleisis patients, but FitzGerald et al. reported no need for transfusion in 152 such patients. None of our patients required transfusion. Colpocleisis is not associated with severe bleeding.

Although two patients reported persistent urge incontinence (9.1%), the symptoms were less marked than before surgery; the mean UDI-6 score improved postoperatively ($p < 0.001$). Postoperative urge incontinence affects 9.7–26% of all women. [8][2] Smith et al. administered urodynamic testing in 210 patients to before colpocleisis; 76% exhibited occult incontinence, a rate much higher than reported in previous studies on the same population .[2] Many older women experience urge incontinence; the effects of colpocleisis and other anti-incontinence

surgeries should be studied further. The need for prophylactic anti-incontinence surgery in patients with occult or no SUI remains controversial. [2],[9]

Many studies have reported post-surgery improvements in PFDI-20, POPDI-6, and CRADI-8 scores. [8],[10],[11] Our study supports these findings. The POP-Q stage decreased after surgery. The anatomical success rate was 100%. The POP-Q was ≤1 postoperatively, and no recurrence was noted during the first postoperative year. The anatomical success rate was >90% in previous studies. After colpocleisis, the vagina is obliterated; 5–10% of patients in previous studies reported regret. [8],[12],[13] In our study, only two patients (9.1%) answered "Never" to question 7: "Looking back, if you 'had to do it all over again', would you have the surgery again?" Both explained that the regret was because of persistent urge incontinence (albeit less severe than previously). Most studies reported that regret was triggered by urinary dysfunction. [10],[8],[13],[14] In the present study, the SSQ-8 global satisfaction score was 86.3. Only one prior study used the SSQ-8 to evaluate satisfaction after colpocleisis; the total score was 89.6, and the global score 91.[15]

The operation time for Lefort colpocleisis was somewhat longer than that for longer total colpocleisis, but not significantly so ($p = 0.10$). The mean operation times reported previously range from 60 to 110 min. [10],[13],[16] Our mean operation times were 70.6 min for LeFort colpocleisis and 52 min for total colpocleisis, shorter than times reported in the literature. All operations were performed by the same surgeon, who was experienced in vaginal surgery. Of all patients, 13.6% ($n = 3$) were treated under local anaesthesia, which is appropriate for patients with comorbidities; the global surgery satisfaction score of these three patients averaged 97.2%; more such patients should be evaluated.

Conclusions

Thus, colpocleisis was safe for older women with medical comorbidities. At 1 year after the operation, the PFDI-20 score had improved significantly, the anatomical success rate was good, and the SSQ-8 score high.

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	Mean/n	**SD/%**
Age (years)	76	± 4,9
69-76		72
76-82		27
Vaginal deliveries	7	±2,6
Prior hysterectomy	5	22,7
Hypertension	13	59,1
Coronary heart disease	4	18,2
Diabetes Mellitus	6	27,3
Pulmonary disease	4	18,2
Dementia	1	4,5
Incontinence	5	22,7

Table1. Demografic data of the patients

(n=22)

Data presented as mean (±SD). SD, standard deviation

Table 2. Operative data and postoperative complications (n=22)

	Mean/n	SD/%
Operation		
Total colpocleisis	5	21,7
LeFort colpocleisis	17	77,3
Operation time (minutes)		
Total colpocleisis	52	4,47
LeFort colpocleisis	70,6	9,69
Anestezia		
Local	3	13,6
Regional	12	54,5
General	7	31,8
Hospital stay (day)	1,9	0,37
Midürethral sling	5	22
Postoperative complications		
Urinary infection	2	9,1
Pyometra	1	4,5
Reoperation	1	4,5
Urge incontinence	2	9,1

Data presented as mean (±SD). SD, standard deviation.

Table 3. POPDI-6, CRADI-8, UDI-6 and PFDI-20 scores preoperatively and one year after postoperatively.

	Preoperative (mean±sd)	Postoperative (mean±sd)	*p*
POPDI-6	52,5±22,08	3,3±4,91	< 0,001
CRADI-8	18,5±8,43	2,25±2,75	<0,001
UDI-6	40,41±15,8	17,08±17,5	< 0,001
PFDI-20	111,9±31,2	22,9± 18,2	< 0,001

Data presented as mean (±SD). SD, standard deviation.

Table 4. Surgical Satisfaction Questionnaire-8 results.

	Mean±SD
SSQ total score	86 ±10,8
SSQ subscales	
Pain	85,7 ±12,9
Return to baseline	85,9±9,7
Global satisfaction	86,3±19,4

Data presented as mean (±SD). SD, standard deviation; SSQ, Surgical Satisfaction Questionnaire..