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Original research

Risk factors for recurrence after Le Fort colpocleisis for severe pelvic organ prolapse in elderly women

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HIGHLIGHTS

- 47 elderly women with severe pelvic organ prolapse had Le Fort colpocleisis surgery.
- Objective cure rate was 80.9% (38/47), and subjective, 91.5% (43/47).
- No patient regretted the loss of sexual function.
- Recurrence was associated with greater post-operative vaginal length and wider genital hiatus.

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ABSTRACT

Introduction: We investigated parameters associated with recurrence after partial (Le Fort) colpocleisis surgery for severe pelvic organ prolapse (POP) in elderly women.
Methods: A retrospective cohort study included all women who underwent partial colpocleisis in a single tertiary center from February 2007 through July 2013 for stage 3 or 4 triple compartment prolapse. Inclusion criteria were age over 60, sexually inactive, medical comorbidities, increased risk for comprehensive reconstructive pelvic surgery, and refusal or failure to use a pessary as a conservative non-surgical treatment. Exclusion criteria were post-menopausal bleeding, pelvic malignancy, and the desire to preserve coital function.
Results: The study group included 47 women of mean age 77.3 ± 8.2 (range 61–91 years). All had medical comorbidities. Fourteen patients (29.8%) had undergone previous hysterectomy. All patients underwent partial colpocleisis and perineorrhaphy. Seven women (14.9%) underwent mid-urethral sling for urinary incontinence. Mean follow-up was 14.8 ± 10.3 months (range, 2–37 months) and mean hospitalization, 3.5 ± 1.5 days (range, 2–9 days). There were no intraoperative complications. Postoperative complications comprised lower urinary tract infection (n = 2). Objective cure (according to vaginal examination) was 80.9% (38/47), and subjective (according to symptoms), 91.5% (43/47). No patient regretted the loss of sexual function. The main reasons for prolapse recurrence were statistically significant longer post-operative vaginal length and wider genital hiatus.
Conclusions: Objective and subjective cure rates of Le Fort colpocleisis for the treatment of severe POP were high with low morbidity. Parameters associated with prolapse recurrence were longer post-operative vaginal length and wider genital hiatus.

1. Introduction

Pelvic organ prolapse (POP) is a common condition negatively affecting the quality of life of millions of women worldwide [1]. The lifetime prevalence of POP is 3–6% when defined by symptoms, and up to 50% when based upon vaginal examination [2]. Due to the increase of POP prevalence with age, and to the increasing life expectancy, the POP occurrence rate in 2030 is expected to be twofold

Abbreviations: POP, pelvic organ prolapse.

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that of 2005 [3]. Surgery is the definitive treatment and may be reconstructive (restoration of vaginal anatomy and coital function) or obliterative (vaginal closure). The lifetime risk for undergoing surgery is up to 19% [4]. Patients with notable comorbidities, those who do not desire to maintain the vagina for sexual function, or those who prefer to avoid hysterectomy may be candidates for obliterative surgery. The vaginal route for reconstructive or obliterative surgery is associated with decreased cost and shorter operating times, hospital stays, and time to return to daily activities compared with the abdominal approach [5].

In cases of severe POP (stages 3 and 4), closure of the vagina by partial colpocleisis (Le Fort's procedure) has long been suggested as suitable for frail or elderly women. The term colpocleisis is derived from the Greek words “kolpos”, meaning hollow and “cleisis”, meaning closure. The first report was in 1823 by Gerardin who described denuding the anterior and posterior vaginal wall at the introitus and suturing them. The technique that is currently used was described in 1877 by Leon Le Fort. His method was based on the premise that apposition of the vaginal walls and perineorrhaphy could prevent uterine prolapse [6,7]. This approach is easy to perform, can be done under local anesthesia, has a shorter operating time, decreased morbidity, decreased blood loss, faster recovery, and high anatomic success rates [6,8] and generally yields satisfactory results [9].

Ideal candidates for colpocleisis usually have poor functional status with medical comorbidities, rendering them unsuitable for extensive reconstructive procedures [10]. Because this procedure precludes sexual intercourse, it is reserved for women who are not sexually active, and do not plan future coital activity.

The purpose of this study was to evaluate our experience with the partial colpocleisis procedure and to analyze the risk factors for recurrence.

2. Materials and methods

This was a retrospective cohort study of all consecutive women who underwent partial colpocleisis as a primary or recurrent surgery for POP in a university-affiliated tertiary medical center from February 2007 to July 2013. The study group included women who had stage 3 or 4 triple compartment prolapse (anterior posterior and apical) with significant medical risk for comprehensive reconstructive pelvic surgery, and who refused or failed to use a pessary as a conservative non-surgical treatment. All women were sexually inactive. Women with post-menopausal bleeding, pelvic malignancy, or the desire to preserve coital function were excluded from the study.

The study was approved by the local Institutional Review Board.

Prior to surgery, all patients completed a comprehensive questionnaire for prolapse, urinary, bowel, and sexual symptoms, which followed the International Continence Society definitions; and underwent physical and site-specific vaginal examination in the lithotomy position during a maximal Valsalva maneuver. Each compartment (anterior, middle, posterior) was evaluated with a Sim's speculum for defects in pelvic support. All measurements were performed according to the standardized International Continence Society scoring system for POP quantification (POP-Q) [11]. In addition, preoperative multichannel urodynamic evaluation with prolapse reduction was performed to identify occult incontinence or voiding difficulties. In cases where the vaginal defect was combined with stress incontinence, additional surgery for incontinence was considered. Vaginal ultrasound examination was performed in all patients, including endometrial thickness to exclude pelvic pathology. If endometrial thickness was more than 4 mm, endometrial sampling was taken to exclude endometrial pathology.

The mode of anesthesia was discussed and decided between the anesthesiologist and the patient according to medical safety and patient preference.

The night before surgery, an enema was administered to empty the bowel, followed by preoperative prophylactic intravenous antibiotics (cefuroxime 1 g and metronidazole 500 mg).

2.1. Procedure

Colpocleisis was performed as follows: The cervix was held and pulled with a tenaculum. Equivalent rectangles were demarcated with a sterile marker on the anterior and posterior aspect of the vagina starting at about 3 cm distal to the cervix, and continuing until the bladder neck posteriorly about 2 cm from the cervix, to about 5 cm from the introitus. The epithelium inside each rectangle was then infiltrated with saline 0.9% to aid in dissection. A scalpel was used to incise the epithelial outlines previously made. Hemostasis was maintained with cautery. The leading edges of the anterior and posterior rectangles were brought together using interrupted 1.0 Vicryl sutures, taking full thickness with each pass of the needle. The muscularis layer was approximated in an anterior to posterior fashion until the most proximal edges of the anterior and posterior trapezoids were approximated. Next, a high perineorrhaphy was performed using 1.0 Vicryl sutures followed by skin closure with 2.0 Vicryl rapid sutures. If needed, concomitant tension free mid-urethral tape is performed prior to perineorrhaphy.

Rectal examination was routinely performed to detect suture presence within the rectum. Cystoscopy was not routinely performed. During surgery, all patients had a ureteral catheter left for one day. Patients remained in the recovery room for 2 h and were then sent to the gynecology department. Our routine recommendation was to partially immobilize the patient to a chair about 12 h after surgery, if feasible.

2.2. Follow-up

The first postoperative follow-up visit was held at approximately 2 months following surgery in our outpatient clinic, and every 6 months thereafter. During these visits, the women were reassessed both subjectively (according to symptoms) and objectively (by vaginal examination) for signs of recurrence. The proximal vaginal end was considered the “vaginal cuff”.

2.3. Recurrence

Objective recurrence was defined as stage 2 or more at any prolapse site. Subjective recurrence was defined as prolapse sensation in women with prolapse stage 1 or more. The primary outcome of the study was the objective and subjective cure rate and the parameters associated with recurrence. The secondary outcomes were the postoperative urinary and bowel symptoms. Patient information was obtained from the institution's computerized database.

2.4. Statistical analysis

Statistical analysis was performed with the SPSS software, version 20.0. (Chicago, IL). Student's t-test was used for comparison of quantitative variables between groups. Chi-square test was used to compare qualitative variables. The Wilcoxon signed rank test was used to compare the POP-Q measurements before and after surgery. A p value of less than 0.05 was considered statistically significant.