Female Pelvic Surgery: Obliterative Vaginal Procedures

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Background

Pelvic organ prolapse (POP) is a common condition among women, and its prevalence increases with age [1–3] Approximately 4.1% of women aged 80 years or older have symptomatic POP [3], and an estimated 11.1% of women will undergo at least one surgery for POP repair or stress urinary incontinence by 80 years of age [4].

As the population of older women expands, there will be increasing numbers of patients suffering from and seeking care for POP. The U.S. Census Bureau estimates indicate that starting in 2056, the population, age 65 and over, will outnumber the population under age 18 [5]. Additionally, Census calculations project that the population age 65 and older will double between 2012 and 2060, from 43.1 million to 92.0 million [5]. Using population projections and age-specific prevalence of POP, Wu et al. estimated that between 2010 and 2050, the number of women with POP will increase 46% from 3.3 to 4.9 million [6]. In a second study, Wu et al. predict that between 2010 and 2050, there will be a 47% increase in women undergoing procedures for POP (166,000 in 2010 and 245,970 in 2050) [7].

Surgical repair of POP is challenging and has been fraught with a high reoperation rate of up to 29% [4]. Pelvic tissues that are either weakened or damaged are thought to predispose these women to failure. The mean time to first reoperation for recurrent prolapse after primary surgical correction has been reported to be between 3 and 4 years [8, 9]. Each additional repair appears to be less robust, with the time between surgeries decreasing with each successive repair [4]. Johnson et al. looked at patient-reported outcomes and found a high rate of early recurrence with 35.4% of patients experiencing recurrent prolapse within 3 months of a primary surgical repair. Furthermore, they found a much higher overall recurrence rate of 64.6% with 30% of patients not reporting recurrences to their primary surgeon [10]. This low reporting rate could account for an underestimation of failure rates in any given physician's practice.

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Colpocleisis

Colpocleisis is simply a closure of the vagina with reduction of the prolapse back into the pelvis. Replacement of the pelvic organs into their anatomic position allows for the relief of the symptoms caused by prolapse. Closure of the vagina is permanent, and it precludes future vaginal intercourse, a point which should be stressed to the patient. Obliteration may be performed in the setting of a prior hysterectomy or with the uterus still in place. The LeFort modification of the procedure is utilized when leaving the uterus in situ. Additionally, hysterectomy may be performed concurrently with colpocleisis in those patients that require removal of the uterus and or cervix. Removal of the vaginal epithelium followed by apposition of the anterior and posterior fibromuscularis layers achieves obliteration of the vaginal space.

Colpocleisis is an effective and durable procedure for the treatment of prolapse. Anatomical success rates range from 97% to 100% in most series [11–18]. The procedure can be, likely than other pelvic organ prolapse procedures to be performed under local or general anesthesia broadening availability to patients with comorbidities or poor surgical candidates [19]. Historically, this procedure has been an appropriate choice for elderly patients >70 years old who do not wish to preserve vaginal function for intercourse [20, 21]. Patients with symptomatic prolapse commonly experience other pelvic floor symptoms including lower urinary tract symptoms, incomplete bladder emptying, and various bowel complaints. Significant improvements have been seen in these additional domains in several studies.

Hullfish and colleagues looked at symptom relief via postsurgical attainment of patient goals that were set preoperatively. In this format, 91% of patients reported improvement of urinary urgency and frequency following colpocleisis [22]. In a series of 324 women who underwent colpocleisis, Zebede and colleagues reported preoperative urgency symptoms in 54% of patients. Following surgical repair, there was a statistically significant reduction in these urgency symptoms by 50% ($p < 0.001$) [18].

Again, looking at postoperative attainment of patient goals, Hullfish and colleagues found a 76.4% subjective improvement in bladder emptying following colpocleisis [22]. In a cohort of women with POP and a postvoid residual (PVR) greater than 100 cc, Fitzgerald and colleagues reported 89% resolution of incomplete bladder emptying after surgical prolapse repair [23]. Similarly, in a series of 64 women who underwent colpocleisis, 36% had elevated preoperative PVR volumes all of which normalized postoperatively [15]. A retrospective cohort by Song and colleagues found that 11.4% of their 35 women studied had postoperative urinary retention that resolved within 4–7 days [24].

The resolution of bowel symptoms is equally encouraging. In a prospective study by Gutman and colleagues, bothersome bowel symptoms resolved in the majority of patients after colpocleisis. Specifically, all obstructive symptoms (digital assistance, straining, and incomplete emptying) and the majority of incontinence symptoms (anal (fecal) incontinence with stress and urge, anal incontinence of flatus and liquid stool) were significantly decreased 1 year after surgery [25]. Likewise, in their large case series, Zebede and colleagues found a significant resolution of bowel symptoms including the following: constipation, obstructed defecation, and fecal incontinence [18].

Patients report a high rate of satisfaction after colpocleisis ranging from 90.3% to 100% [12, 14, 17, 18, 24, 26–28]. In most studies, women urinary retention or urgency was the cause for "neither satisfied nor dissatisfied" [24, 29]. Barber and colleagues reported that patients had significant improvements in multiple quality-of-life measures including the following: bodily pain, vitality, social functioning, and mental health measures [26]. Also, in this study of women of age 65 or older with Stage 3 or 4 prolapse, there were no differences found between the reconstructive and obliterative groups as both demonstrated significant improvements in health-related quality of life [26]. A study of 278 women by Wang and colleagues reported a significant improvement in the total body image scores approximately 3 years post procedure [30].

Correspondingly, Murphy and colleagues also found that the quality of life and patient satisfaction was similar between groups of women who had reconstructive versus obliterative prolapse repairs [31].

Evaluation/Workup

Preoperative evaluation for colpocleisis should include a thorough history of the prolapse complaint including prior reconstructive procedures and associated pelvic floor symptoms. Details should be obtained regarding pain and pressure symptoms, urinary incontinence, voiding dysfunction, fecal incontinence, and defecatory dysfunction. A detailed vaginal exam, bimanual and speculum, is required with evaluation of all compartments. A quantitative scoring of the prolapse, assessment of uterine size when applicable, measurement of post void residual, and assessment of urine for infection and hematuria should be included. Colpocleisis is most easily completed in patients with Stage 3 or greater prolapse (Fig. 6.1). In patients with less severe support defects, or asymmetric compartment prolapse, the dissection required may be more challenging.

Some type of preoperative evaluation for stress urinary incontinence (SUI), even in patients who report continence, is recommended due to the high rate of occult SUI in women with POP. The rate of occult stress urinary incontinence in the setting of Stage 2 prolapse or greater ranges from 33.5% to 67.9% [18, 32–35]. A simple cough stress test with a full bladder and the prolapse reduced is often sufficient in patients with uncomplicated, demonstrable SUI. Patients with voiding dysfunction, mixed incontinence, incomplete bladder emptying, or prior urologic surgery undergo a more thorough investigation with urodynamics in our practice.

The data are varied and the true predictive value of preoperative urodynamics remains unclear. Reena and colleagues studied women both before and after they underwent prolapse repairs without anti-incontinence procedures and found that 64.2% of patients with documented

Fig. 6.1 Stage 4 vaginal vault prolapse

occult SUI also demonstrated SUI postop [33]. In a small series of patients, Chaikin and colleagues reported that no patients with negative preoperative testing developed postoperative SUI [29]. Similarly, Hafidh and colleagues found a very low rate of postoperative SUI (4%) in patients with no SUI demonstrated on preoperative urodynamics [36]. In contrast, studies by Wei and Al-Mandeel found a high incidence of postoperative SUI, 38% and 42% respectively, in patients with preoperative testing that was negative for SUI [35, 37]. What is clear, however, is that it is reasonable to place a midurethral sling at the time of prolapse repair in women with clinical SUI or documented occult SUI. A study by Davenport et al. reported that the stage of preoperative cystocele in accordance with the POP quantification system was directly related to de novo stress urinary incontinence after prolapse repair [38]. Specifically, they reported a 41.3% rate of de novo incontinence for women with Stage 2 prolapse, 52.5% for Stage 3, and 66.1% for women with advanced Stage 3 and Stage 4 prolapse. This study only included women undergoing

abdominal sacrocolpopexy and may not be generalizable to obliterative procedures. In 100 women with occult SUI who underwent TVT, Croutz and colleagues report an 83% success rate for absence of postoperative SUI and only 2% of patients with persistent SUI were symptomatic [32]. Meschia and colleagues also reported high rates of postoperative continence (objective 92%, subjective 96%) in patients who underwent TVT placement for occult SUI [39]. Jelovesk and colleagues validated a model that predicts de novo stress incontinence after prolapse repair, and may be useful in counseling patients about concomitant anti-incontinence procedures [40].

Management of the Uterus

In women with a uterus, it is prudent to confirm that there is no cervical or endometrial pathology which would be a contraindication to leaving the uterus in situ. A decision analysis by Jones et al. reported that colpocleisis without hysterectomy is preferred and most common among practicing surgeons [41]. Closure of the vagina will severely limit the ability to perform future surveillance via the traditional routes (pap smear, endometrial biopsy). A complete history should be taken regarding any history of abnormal pap smears as well as any episodes of postmenopausal bleeding. Benign cervical cytology should be documented in a patient with a history of any abnormal pap smears or a previous treatment for cervical intraepithelial neoplasia (CIN). The most recent guidelines from the American College of Obstetricians and Gynecologists (ACOG) recommend that women with a history of CIN2, CIN3, or adenocarcinoma in situ should have 20 years of negative screening following treatment prior to discontinuation of cervical cancer screening [42]. Therefore, it is recommended that any woman who would need continued surveillance based on her history should have a hysterectomy at the time of colpocleisis.

The incidence of endometrial cancer in the general population is 3.5% [43]. While the risk of endometrial cancer is low, women with a history of endometrial hyperplasia or any episodes of

postmenopausal bleeding should have a preoperative assessment of the endometrium. This can be accomplished via endometrial sampling via endometrial biopsy or dilation and curettage of the uterus. Alternatively, the least invasive approach is to evaluate the endometrial thickness via transvaginal ultrasound. In women with postmenopausal bleeding, endometrial sampling is not required if an endometrial thickness of less than or equal to 4 mm is found on transvaginal ultrasound [44]. The decision to screen asymptomatic women with transvaginal ultrasound for assessment of the endometrial thickness may be left to the discretion of the surgeon. Approximately 68% of surgeons in a survey published by Jones et al. reported sampling the uterus before the time of surgery [45]. As reported by ACOG, the significance of an endometrial thickness greater than 4 mm in a postmenopausal woman without bleeding has not been established and does not routinely need evaluation in the absence of risk factors [46]. Concurrent hysterectomy is recommended and appropriate for women with the finding of endometrial hyperplasia and those with numerous risk factors [47]. Patients with the diagnosis of atypical endometrial hyperplasia should be referred to a gynecologic oncologist for surgical management due to the high rate (42.6%) of concurrent carcinoma [48].

Adverse Perioperative Events

Major perioperative adverse events after colpocleisis are rare regardless of age [19, 20, 49–51]. Failure with need for reoperation, wound infection, atrial fibrillation, and vaginal vault hematoma are among the most serious documented adverse outcomes. Vaginal evisceration after colpocleisis is a very rare surgical emergency and only two cases have been documented in the literature [52]. Urinary tract infection and mild urinary retention are the most common adverse events [53]. A retrospective review by Catanzarite and colleagues reported an 8.1% complication rate with urinary tract infection as the most common adverse event occurring in 6.4% of patients. Accordingly, the study also reported similar rates

of urinary complications in women who underwent colpocleisis alone and colpocleisis with a sling. Age less than 75, COPD, and hemiplegia, have been identified as risk factors for increased complications. Similarly, a 10-year study by Hill and colleagues, UTI was the most common side effect occurring in 34.7% of women [20]. This retrospective study compared rates of adverse outcomes in women who underwent colpocleisis alone versus concurrent hysterectomy. The study examined 19 different end points and found no differences in overall rates but did identified a statistically significant difference ($p < 0.0001$) in longer operative times and greater blood loss with concurrent hysterectomy [20].

Regret and Recurrence

Rates of regret following colpocleisis are low typically ranging from 3% to 9% [22, 54, 55]. In a series by von Pechmann and colleagues, a higher rate of regret (12.9%) was reported; however, half of those patients also stated that they still would have the surgery again. There are concerns that closure of the vagina may negatively affect a patient's body image, but most patients report improved body image following surgery and no regret over the loss of sexual function [17, 19, 29, 44, 56]. In their series of 40 patients with self-created goals, Hullfish and colleagues found a 96.9% improvement in self-image after surgery [22]. Utilizing questions regarding body image and perception, Koski and colleagues found that 50% of patients felt that their body looked better after colpocleisis and 82% reported their body felt better after the procedure [17]. Overall, colpocleisis is associated with a high satisfaction rates and low rates of regret.

Because colpocleisis eliminates the possibility of future vaginal intercourse, preoperative counseling is extremely important and patient selection is key. There is no identified minimum age requirement for consideration of the procedure. With colpocleisis, as in all cases of prolapse repair and reconstruction, the treatment plan must be individualized for each patient. Preoperative counseling should be specific and thorough including information on potential pessary management, alternative options for repair, possibility of postoperative urinary incontinence and recurrence risk.

A retrospective cohort by Krissi and colleagues found that in women with Stage 3 or 4 prolapse the greatest risk factors for recurrence were longer vaginal length and wider genital hiatus. Objective recurrence was defined as Stage 2 prolapse or greater in any compartment and subjective recurrence was defined by patient perception [57]. Medical comorbidities, BMI, length of menopause and number of vaginal deliveries did not affect recurrence. Furthermore, one study of 107 women found that there was a higher rate of recurrence in women who delayed surgery after onset of prolapse (24.6 ± 22.8 years) versus those who did not (8.0 ± 12.9 years $p = 0.02$) [58].

In the carefully selected patient, these results demonstrate that an obliterative procedure remains a particularly good option following a thorough informed discussion.

Concurrent Procedures

Concurrent Hysterectomy

It is important to note that hysterectomy with concurrent colpocleisis does not improve success rates over colpocleisis alone [14, 41, 57], and has been associated with an increased blood loss and patient transfusion requirements [14]. The American College of Surgeons national surgical quality improvement program reported more occurrences of major postoperative complications with concomitant hysterectomy, but no difference in the rate of overall complications [19, 59]. A similar review of colpocleisis versus colpocleisis with hysterectomy by Bonchenska and colleagues reported that 87% of women opted for colpocleisis alone and had shorter operative times [60]. Due to these concerns, exceptions to the above recommendations may be reasonable in patients who are of advanced age or debilitated and should be a joint decision between the patient and the surgeon.

Concurrent Midurethral Sling

The option for concurrent midurethral sling placement should also be discussed with patients, specifically, in the situation of demonstrated SUI in the setting of incomplete bladder emptying as well as patients with no preoperative urinary incontinence. The addition of a midurethral sling does not appear to cause a high risk of urinary retention and preoperative incomplete bladder emptying seems to resolve in most patients [34, 61]. In a series of 38 women who underwent colpocleisis and midurethral sling placement, Abbasy and colleagues reported a 2% rate of elevated PVR postoperatively. Additionally, they saw a 90% postoperative resolution of preoperative incomplete bladder emptying (defined as PVR greater than 100 ml) [61]. In a much larger series of 210 women, Smith and colleagues found a de novo voiding dysfunction rate of 1.9% in women who underwent colpocleisis and midurethral sling. Similarly, they found a 91% resolution of preoperative incomplete emptying [34]. An alternative, nonpermanent approach is to offer periurethral bulking injections to patients for whom the risk of retention is thought to be particularly high.

The decision whether to offer a midurethral sling to continent patients at the time of colpocleisis remains controversial. As detailed above, the risk for de novo SUI may be quite significant; however, midurethral slings are not without complications or sequela. A large randomized controlled trial by Wei and colleagues specifically addressed this question by randomizing women without SUI who were undergoing vaginal prolapse repair to either have a midurethral sling or sham sling incisions. The sling group had significantly decreased rates of urinary incontinence at both 3 (23.6% vs. 49.4% ($p < 0.001$)) and 12 months (27.3% vs. 43.0% ($p = 0.002$)) [35]. However, the sling group did have significantly higher rates of complications including the following: bladder perforation, urinary tract infection, major bleeding complications, and incomplete bladder emptying for up to 6 weeks following surgery. Also, of note 5% of patients in the sham group had a sling placement within the

first year after surgery, but only 2.4% of patients in the sling group required sling revision for voiding dysfunction. A detailed discussion of all the possible risks and benefits should be carried out with patients when making the determination of whether to place a sling in this population.

Surgical Procedures

All patients receive a preoperative prophylactic broad-spectrum antibiotic. Additionally, all patients have DVT prophylaxis; our standard is to use compression stockings and sequential compression devices on the lower extremities (Table 6.1).

For a patient in whom the uterus is to remain in situ, a LeFort colpocleisis is performed. To begin, outward traction is placed on the cervix using a tenaculum or Allis clamp. Two rectangles (anterior and posterior) are outlined with a surgical marker starting approximately 2 cm distal to the cervix and extending to the bladder neck anteriorly and mirroring this posteriorly. This will aid in maintaining orientation during removal of the vaginal epithelium. Laterally, there should be at least 2 cm of epithelium separating anterior from posterior rectangles in order to allow adequate tissue for creation of the drainage channels. Starting with the posterior wall 1% lidocaine with a 1:200,000 dilution of epinephrine is infiltrated in to the subepithelial space to aid in hemostasis and hydrodissection. The demarcated areas are circumscribed with knife and sharp dissection is performed to start the removal of the vaginal epithelium from the underlying fibromuscularis. It can be helpful to refrain from making all incisions initially but rather to proceed in a systematic fashion (posterior to anterior) in order to decrease blood loss and improve visualization during dissection. Typically, a combination of sharp and blunt finger dissection with a sponge can be employed to facilitate removal of the epithelium once the appropriate plane is achieved. Hemostasis is maintained with meticulous use of monopolar cautery throughout the dissection. With the LeFort procedure, only the areas of anterior and posterior rectangles are denuded.

Table 6.1 Risk classification for venous thromboembolism

Level of risk	Definition	Prevention strategies
Low	Surgery less than 30 min in patients younger than 40 years with no additional risk factors	No specific prophylaxis, early mobilization
Moderate	Surgery lasting less than 30 min in patients with additional risk factors	Low-dose unfractionated heparin: (5000 units every 12 h)
	Surgery lasting less than 30 min in patients aged 40–60 years with no additional risk factors	OR Low molecular weight heparin: (2500 units dalteparin or 40 mg enoxaparin daily)
	Major surgery in patients younger than 40 years with no additional risk factors	OR Graduated compression stockings OR Intermittent pneumatic compression device
High	Surgery lasting less than 30 min in patients older than 60 years or with additional risk factors	Low-dose unfractionated heparin: (5000 units every 8 h) OR Low molecular weight heparin: (5000 units dalteparin or 40 mg enoxaparin daily) OR Intermittent pneumatic compression device
	Major surgery in patients older than 40 years or with additional risk factors	
Highest	Major surgery in patients older than 60 years plus prior venous thromboembolism, cancer, or molecular hypercoagulable state	Low-dose unfractionated heparin: (5000 units every 8 h) OR Low molecular weight heparin: (5000 units dalteparin or 40 mg enoxaparin daily) OR Intermittent pneumatic compression device/ graduated compression stockings + low-dose unfractionated heparin or low molecular weight heparin Consider continuing prophylaxis for 2–4 weeks postop

Based on data from Refs. [62, 63]

To continue the LeFort procedure, channels are created after the removal of the epithelium and prior to starting closure of the vagina. Absorbable suture is used to tubularize the lateral strips of epithelium by suturing the epithelial edges together superior to inferior. This may be done with an interrupted or running stitch. Our preference is to use 2-0 polyglycolic acid suture on a CT2 needle and run this closure toward the cervix, thus allowing the surgeon to sew toward herself. These channels will allow the drainage of cervical and uterine secretions. Care should be taken to continue to identify the location of the channels throughout the rest of the procedure in order to avoid inadvertently suturing them closed.

Following creation of the channels, imbricating sutures are placed in the fibromuscularis to begin reduction of the prolapse. Successive anterior to posterior imbricating sutures in either an interrupted or figure-of-eight fashion are the most effective when reducing the epithelialized cervix. Once the cervix has been fully reduced, it is usually most straightforward to continue with anterior to posterior imbrication until the prolapse has been reduced to the level of the levator plate. Cystoscopy is then carried out following administration of Indigo Carmine to ensure ureteral efflux. From this point onward, the procedure is completed with a levator plication and perineorrhaphy in the same fashion as a complete colpocleisis is performed without the uterus in situ.

As addressed above, concomitant hysterectomy should be performed for patients with a contraindication to retention of the uterus. This combined procedure can have increased morbidity due to inherent risk of entry into the peritoneal cavity, increased operative time, and increased blood loss. Following vaginal hysterectomy, the

cuff should be closed to protect the intraperitoneal structures at which point removal of the epithelium is then started.

In the patient with a prior hysterectomy, a complete colpocleisis requires the removal of entire vaginal epithelium. A surgical marker is used to outline the lateral borders of dissection along the perineum, vaginal sidewalls, and anterior vaginal wall proximal to the urethra. This may be further demarcated into quadrants in order to aid in maintaining orientation, which can be easily lost, during dissection with severe prolapse (Figs. 6.2 and 6.3). Injection of 1% lidocaine with a 1:200,000 dilution of epinephrine into the subepithelial space may be utilized to aid in hemostasis and hydrodissection [64]. The demarcated areas are circumscribed with a knife and sharp dissection is used to initiate removal of the vaginal epithelium from the underlying fibromuscularis. Similarly to the LeFort, it is best to proceed in a systematic fashion in order to maintain orientation, decrease blood loss, and preserve visualization. The authors would recommend posterior to anterior (Fig. 6.4). Again, once the appropriate plane is entered, a combination of sharp and blunt dissection can be used to separate the epithelium from the fibromuscularis (Fig. 6.5a–c). Attention should be given to maintaining hemostasis throughout the dissection with judicious use of the monopolar cautery. Significant blood loss can be encountered when performing extensive dissection on severe prolapse, so all efforts toward hemostasis will help to decrease the need for transfusion.

It is not uncommon to encounter an enterocele during removal of the vaginal epithelium. An attempt should be made to avoid entering the enterocele. However, these dissections can be challenging and with some severe defects, there may be peritoneum directly abutting vaginal epithelium. If an enterocele is entered, the sac should be meticulously mobilized circumferentially from the surrounding tissue with special care taken to avoid small bowel injury. The enterocele sac should then be tied off using an absorbable suture and a circular purse-string stitch. For large defects in the peritoneum, 2–3 full purse-string sutures are required to ensure adequate closure. If there is an excessive amount of redundant, prolapsing enterocele sac, the peritoneum can be trimmed circumferentially for a more proximal and effective closure.
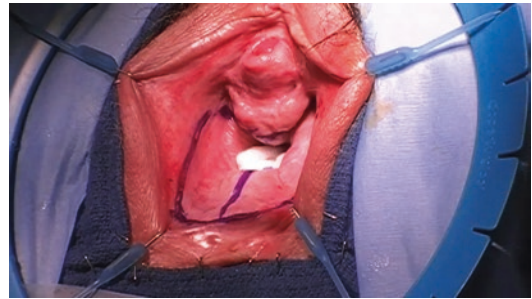
Fig. 6.3 Boundaries of perineal dissection
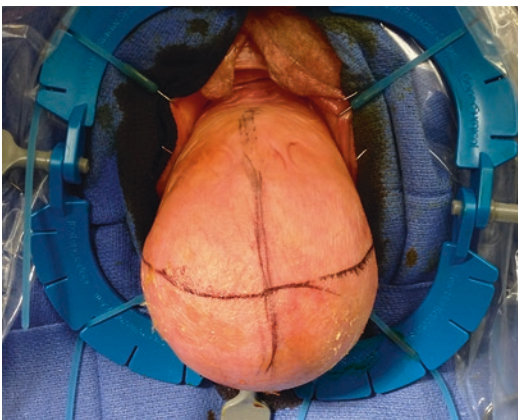
**Fig. 6.2** Demarcated quadrants for dissection
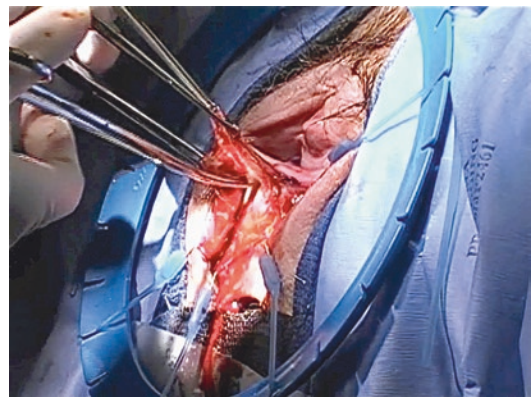
Fig. 6.4 Posterior dissection of vaginal epithelium from fibromuscularis

Following removal of the vaginal epithelium, reduction of the prolapse can be performed with one of two techniques or a combination of both. One option is to use successive anterior to posterior imbricating sutures in either an interrupted or figure-of-eight fashion. Alternatively, sequential, circular purse-string stitches are an effective technique for reduction of the prolapse (Fig. 6.6). The authors favor using 2-0 polyglycolic acid suture on a CT2.

Several centimeters of vaginal epithelium should be retained on the distal, anterior vaginal wall underneath the urethra. This is recommended for all patients whether they are having a concomitant sling placement or not. Maintenance of this distal epithelium prevents excessive traction on the urethra and leaves room for immediate or future sling placement. Placement of a midurethral sling is most easily achieved after the prolapse has been reduced to or above the levator plate and before levator plication.

Cystoscopy with IV indigo carmine administration is performed at this point to rule out bladder injury and ureteral obstruction. If ureteral obstruction is diagnosed on cystoscopy, a prudent first step is to remove the anterolateral sutures, as this is often the location where the ureters are
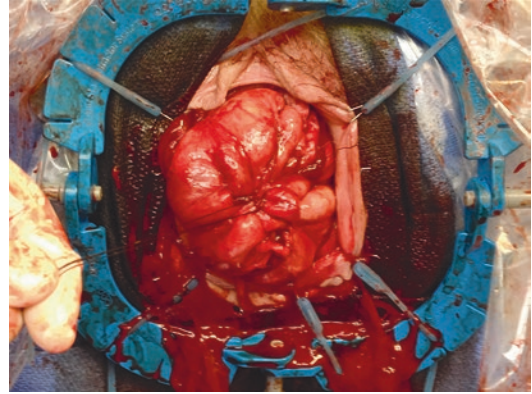

Fig. 6.6 Purse-string reduction of prolapse
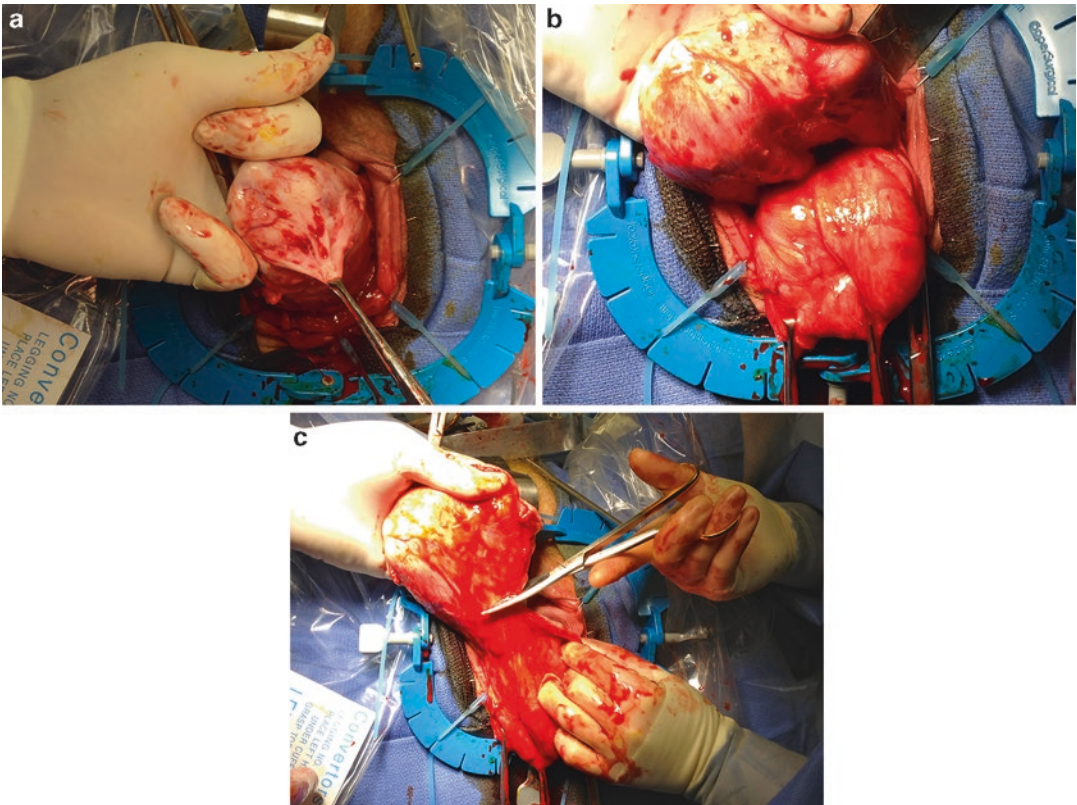
Fig. 6.5 (**a–c**) Dissection and removal of vaginal epithelium

encountered. Cystoscopy is then repeated to ensure ureteral patency.

Next, a levator plication is performed to close the genital hiatus and buttress the repair. Using 2-0 polyglycolic acid suture on a CT 2, interrupted or figure-of-eight sutures are performed pulling the muscles together in the midline (Fig. 6.7). Initially, excessively lateral bites of tissue can cause undue tension and may make it difficult to achieve approximation in the midline. Following levator plication, the perineorrhaphy should include reapproximation of the transverse perineal and bulbocavernosus muscles at the introitus. Finally, the vaginal epithelium is reapproximated in 1–2 layers with a subcutaneous and a subcuticular stitch or a running through and through stitch (Fig. 6.8).
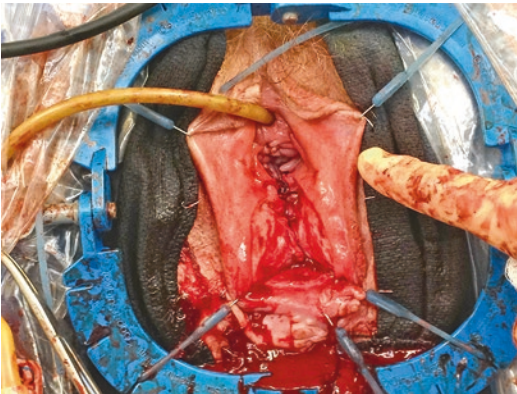
Fig. 6.7 Completed levator plication

Fig. 6.8 Completion of perineorrhaphy

Summary

Colpocleisis is a successful operation with few complications, and postoperatively patients report minimal regret and significant improvement in quality of life. SUI should be evaluated preoperatively but may warrant postoperative reassessment based on patient symptoms. Concurrent procedures are associated with more risks and should be carefully chosen. Urgency urinary incontinence after these surgeries can be problematic and may require additional medical treatment. Overall, the procedure is an effective option in the properly selected patient.

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