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Vaginal approach to vesicovaginal fistula and vaginal vault prolapse preserving sexual function by Latzko repair and sacrospinous suspension

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Abstract

The combination of vesicovaginal fistula and complete vaginal vault prolapse is rare. The only published treatment recommendations concern partial colpocleisis; an option that precludes intercourse. In this case report, we describe successful repair of this problem with a Latzko fistula repair and concomitant Michigan four-wall sacrospinous ligament suspension: curing the fistula, correcting the prolapse and preserving sexual function.

Keywords

vesicovaginal fistula; pelvic organ prolapse; Latzko; sacrospinous ligament suspension

Introduction

The continuous incontinence from a postoperative vesicovaginal fistula (VVF) can be a devastating experience for a woman recovering from a hysterectomy, and for her surgeon. Fortunately it is a rare complication occurring in only about 0.8 out of 1,000 hysterectomies [1]. Its occurrence with complete vaginal vault eversion is even less common. Information about different operative approaches is limited to recommendations for colpocleisis [2, 3] which would not preserve sexual function. In this report, we describe management of this combination of problems to minimize postoperative morbidity and preserve a woman's ability to have vaginal intercourse.

The Latzko procedure for VVF repair is commonly utilized by gynecologic surgeons because it is performed vaginally, complications are uncommon, and it has an overall low risk of failure [4]. The way in which this might be combined with sacrospinous ligament suspension has not previously been described. We report the successful use of these combined procedures to cure a postoperative fistula and vaginal vault eversion.

Case report

A 57 year-old woman presented with urinary incontinence one year after a vaginal hysterectomy, anterior Avaulta mesh placement, transobturator tape and posterior colpoperineorrhaphy. Six weeks after that procedure, she felt a “pop” and noticed recurrence of the prolapse and constant leakage of urine. On examination in our office, she had a complete vaginal vault eversion extending 11 cm below the hymen, a visible vesicovaginal fistula at the right vaginal apex with urine draining from it, and palpable anterior vaginal mesh below the fistula, but not involved in it. A CT urogram confirmed intact ureters and the presence of a right sided vesicovaginal fistula near the right ureter. Her past surgical history included two partial bowel resections for Crohn’s disease. A plan for a vaginal approach was therefore considered advantageous.

A Latzko vesicovaginal fistula repair, Michigan four-wall sacrospinous ligament suspension (SSLS), anterior and posterior colporrhaphy were planned. After administration of intravenous indigo carmine, a cystoscopy was performed and the fistula identified and its proximity to the ureter noted. The location for the margins of the vaginal excision location and Latzko repair were marked. A circumscribing incision was made 2 cm from the fistula orifice. The vaginal epithelium was denuded to the tract. The fistula was closed with a purse string suture of 4-0 Vicryl. Two additional layers of imbricating sutures were placed over the fistula in order to take tension off of the tract, followed by closure of the epithelium.

The SSLS was then performed using the Michigan four-wall technique previously described [5]. This technique begins at the apex and excises excess vaginal epithelium. The area to be removed was planned to be beside the Latzko repair and was chosen to minimize the risk of redundant tissue sagging postoperatively, while minimizing tension or involvement of the fistula repair site (Figure 1). Because the fistula was on the right side, tension on the repair was relieved by the right-sided suspension. After completion of the SSLS, traditional anterior and posterior colporrhaphy were performed. The anterior colporrhaphy addressed the prolapsed upper portion of the vagina. The previously placed vaginal mesh was only located in the lower portion of the vagina and was not encountered during the repair. Cystoscopy showed bilateral ureteral patency and no leakage from the repaired fistula.

The Foley catheter was removed 3 weeks after surgery and the patient was able to void without difficulty. Five months after surgery, she did not have any incontinence and her pelvic support was normal.

Discussion

There are reports of concomitant prolapse and fistula repair by performing a Latzko procedure and LeForte colpocleisis [2, 3]. Although this is a simple and effective option for women who are not sexually active, there is little in the literature to guide surgeons in the case of a woman who is sexually active and has a VVF and prolapse.

It would be possible to approach this patient with staged operations, first repairing the fistula and later correcting the prolapse. However, this increases the recovery time for a woman who has already had a recent operation. Concomitant procedures seemed feasible given the

patient's preoperative vaginal length of 11 cm. Furthermore, we took advantage of the fact that the Michigan four-wall SSLS involves unilateral fixation to the sacrospinous ligament. It allows one to customize the length of the vagina when choosing the suspension points on the vaginal epithelium to attach to the ligament. Since the patient's fistula was at the right-sided aspect of the hysterectomy scar, deviation of the vaginal vault towards the right sacrospinous ligament ensured that there was no tension on the vesicovaginal fistula closure. The vaginal wall that is on the suspension side is often longer than the distance between the introitus and ligament and so is often slack after the suspension. Had the fistula been on the other side, a left sided suspension could have created the same reduction of tension.

In the situation of recurrent vaginal vault prolapse and a VVF, a concomitant Latzko fistula repair and Michigan four-wall SSLS offers a viable surgical option for women who are sexually active. This procedure provides the combined benefits of a total transvaginal approach, minimal surgical morbidity, and a high likelihood of success. The synergistic benefit of the unilateral sacrospinous fixation minimizing tension on the fistula repair makes this an especially attractive approach for pelvic floor reconstruction.

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Figure 1.

panel A: prolapse with VVF in the right portion of the hysterectomy scar leaking indigo carmine stained urine; B: area to be de-epithelialized around fistula; C: mobilization of epithelium around fistula (marked with probe); arrowhead; D: purse string suture around fistula tract prior to excision; E: layered closure of fascia; F: area of epithelium to be removed for Michigan 4 wall SSLS