

Case Report

Repair of a Vaginal Evisceration Following Colpocleisis Utilizing an Allogenic Dermal Graft

R. D. Moore and J. R. Miklos

Department of Obstetrics and Gynecology, Northside Hospital, Atlanta, Georgia, USA

Abstract: Vaginal evisceration following colpocleisis is a very rare event and, to our knowledge, there has only been one previous case report. An 86-year-old woman presented to the Emergency Department with acute onset of abdominal pain occurring following a bowel movement. Six months previously, she had undergone a colpocleisis for recurrent vaginal vault prolapse. On presentation to the emergency room, she was noted to have 60 cm of necrotic small bowel protruding through her vaginal introitus. She was taken to the operating room for resection of the small bowel and closure of her colpocleisis. The closure of the vaginal defect was difficult and required a vaginal approach employing an allogenic dermal graft. This was accomplished and the patient had an uneventful recovery and was discharged home. At 18 months followup, she has had no complication or recurrence. Evisceration following colpocleisis is a rare event, but can be very difficult to manage and we suggest consideration of employing a graft to reinforce the repair.

Keywords: Allogenic dermal graft; Cadaveric graft; Colpocleisis; Enterocele repair; Vaginal evisceration

Introduction

Vaginal evisceration of bowel contents is a rare event. In 1907, McGregor [1] first reported a case of vaginal evisceration and since that time there have been fewer than 80 cases reported in the world literature. Although rare, the correct diagnosis and treatment of a vaginal

evisceration when it does occur is critical, as it is a surgical emergency. We present a case of vaginal evisceration and its repair using an allogenic dermal graft in an 86-year-old woman 6 months after she had a colpocleisis for recurrent vaginal prolapse.

Case Report

An 86-year-old white woman presented to the emergency department because of an acute onset of pain while bearing down to have a bowel movement. She was found to have small bowel protruding from the vagina and was immediately brought to the hospital. Urogynecologic and general surgery consultations were requested by the staff physician. The patient had previously been in excellent health, being perfectly ambulatory and mentally very clear. Her past medical history was remarkable only for hypothyroidism. Her medications included synthroid, estrogen and anticholinergics for bladder spasms. She had undergone a colpocleisis for recurrent vaginal prolapse 6 months prior to admission. Her past surgical history also included four prior separate surgeries for vaginal prolapse over the last 28 years, including vaginal hysterectomy, two anterior and posterior repairs and, 1 year preceding the colpocleisis, a levatorplasty, perineoplasty and suburethral sling. On physical examination she was found to be agitated and in acute pain. Her abdomen was tender and tense, with apparent peritoneal irritation. On vaginal examination 60 cm of necrotic small bowel was found protruding through the vaginal vault.

Following presentation, the patient was taken to the operating room where an exploratory laparotomy was performed. A loop of distal ileum was found protruding through a defect in the vaginal wall. The loop of bowel

Correspondence and offprint requests to: Dr John R. Miklos, 3400-C Old Milton Parkway, Suite 330, Atlanta, Georgia 30005, USA. Tel: 770-475-4499; Fax: 770-475-0875; Email: Johnrmiklos@yahoo.com

was felt to be necrotic and a primary resection and anastomosis was completed. An abdominal approach to repair the site of dehiscence was unsuccessful because the surgeon was unable to reach the apex of the shortened vagina. Evaluation from below revealed a total vaginal length of 2.5 cm, measured from the hymenal ring to the point of dehiscence at the apex of the vagina. As expected, the vaginal epithelium surrounding the area of dehiscence was thin and lacked underlying fascial support. The posterior vaginal wall was then incised in the midline in a vertical fashion and the vaginal epithelium was dissected from the underlying remnants of rectovaginal septum up to the apical defect. In an attempt to strengthen the repair and decrease the chance of recurrent dehiscence, the posterior vaginal wall was reinforced with an allogenic dermal graft. This was accomplished by augmenting the rectovaginal septum with a 3.0 × 7.0 cm graft anchored bilaterally to the iliococcygeus muscle and distally to the perineal body using permanent sutures. The pubocervical fascia underlying the anterior vaginal wall was then dissected and appeared adequate. Using permanent suture a colpocleisis was performed incorporating the pubocervical fascia anteriorly and the dermal graft posteriorly. This achieved a multilayer closure over the area of dehiscence. The edges of the anterior and posterior vaginal epithelium were closed in a horizontal fashion using 2/0 delayed absorbable suture.

The patient was placed on broad-spectrum antibiotic coverage, and after an uneventful recovery in the hospital was discharged home in a stable condition. She has been followed for 18 months without recurrence or complications.

Discussion

Although rare, the correct diagnosis and treatment of a vaginal evisceration when it does occur is critical, as it is a surgical emergency. Four deaths directly associated with vaginal evisceration have been reported to date, resulting in a mortality rate of approximately 6%–10% associated with the condition [2]. Several authors have reviewed the literature [2–4] and have cited the most common risk factors to include the triad of postmenopausal status, previous vaginal surgery and evidence of a disorder of the pelvic floor, most commonly an enterocele. Other risk factors may include previous abdominal hysterectomy, a history of radiation therapy, or carcinoma of the pelvis [4].

Emergency treatment of vaginal eviscerations includes stabilization, intravenous fluid therapy and broad-spectrum antibiotics that cover the bowel flora, wrapping the bowel with moist saline towels and prompt surgery. If the bowel has extruded recently, it has been reported that as long as there is absolutely no evidence of infarction or compromised tissue, it may be reduced and a vaginal repair attempted [2]. If there is any question of such evidence, a transabdominal or a combined abdominovaginal approach should be used. Laparotomy

is always mandatory if there is a question of perforation or the need for bowel resection. Regardless of the selected approach, surgical treatment in addition to reduction and evaluation of the evulsed bowel includes repair and/or reconstruction of the vagina and its defect. Previously reported treatments have included simple surgical repair of the vaginal defect, obliteration of the cul de sac, abdominosacral colpopexy, the use of omental flaps to help close large defects, and colpocleisis or vaginectomy in non-sexually active women [5].

In this case the patient had had multiple previous vaginal surgeries for prolapse and incontinence, with a colpocleisis performed only 6 months prior to presenting with an evisceration. To our knowledge there has been only one reported case of evisceration following colpocleisis [6]. The inherent nature of the colpocleisis procedure involves the removal of a large portion of the vagina and its subsequent closure by sewing the walls together. Removal of a large portion of vaginal wall with its underlying fascia predisposes one to vaginal herniations, such as an enterocele. An enterocele has been defined as peritoneum in direct contact with vaginal epithelium secondary to a separation in the integrity of the rectovaginal and pubocervical fasciae [7]. Theoretically, the enterocele will be the thinnest and weakest part of the vaginal wall and, when combined with chronic irritation, epithelial ulceration and/or increased intra-abdominal pressure, may lead to progressive attenuation of the vaginal mucosa and create the potential for rupture and evisceration.

In an attempt to prevent the future formation of an enterocele, or an apical fascial support defect, the pubocervical and rectovaginal fascia should be surgically reapproximated. Review of the surgical record revealed that in our patient the colpocleisis was performed using delayed absorbable sutures. This may have contributed to the subsequent breakdown only 6 months later, resulting in an evisceration of small bowel through the vagina.

Repairing a vaginal evisceration following colpocleisis poses a technical surgical challenge because of the minimal amount of vaginal tissue that remains following the procedure. As described above, our patient was assessed and found to have an inadequate amount of vaginal tissue for repair of the vaginal wall defect. A decision was made to implement a dermal graft to repair and reinforce the fascia of the vaginal wall. Miklos and Kohli [8] have reported on the use of dermal grafts in the treatment of a rectovaginal fistula without complication. The authors have also used dermal grafts in the treatment of vaginal wall prolapse, fistulas and shortened vaginas. The patient reported here tolerated the procedure well, and 18-month follow-up revealed excellent support. This is only the second reported case of vaginal evisceration following colpocleisis and the first known case of the treatment involving the use of a dermal graft. Ferri and Simon [9] have previously reported the use of a polytetrafluoroethylene mesh in an abdominal approach to repair a vaginal evisceration in one patient. However, reported mesh-related complication rates are frequent,

with an up to 35% removal rate and 10 % sinus tract formation for suburethral slings, and 9% erosion rates seen with sacrocolpopexy [10]. Dermal grafts may be of benefit in the treatment of various pelvic floor support defects, and further investigation and research are warranted prior to universal acceptance and recommendations.

References

1. McGregor AN. Rupture of the vaginal wall with protrusion of small intestines in a woman 63 years of age. Replacement, suture, recovery. *J Obstet Gynecol Br Emp* 1907;11:252–258
2. Virtanen HS, Ekholm E, Kiilhoma PJ. Evisceration after enterocele repair: a rare complication of vaginal surgery. *Int Urogynecol J* 1996;7:344–347
3. Kowalski LD, Seski JC, Timmins PF et al. Vaginal evisceration: presentation and management in postmenopausal women. *J Am Coll Surg* 1996;183:225–229
4. Rollinson D, Brodman ML, Friedman F. Transvaginal small bowel evisceration: a case report. *Mt Sinai J Med* 1995;62:235–238
5. Powell JL. Vaginal evisceration following vaginal hysterectomy. *Am J Obstet Gynecol* 1973;115:276–277
6. Thomsen H. Vaginal evisceration trods kolpopleisis og kolpoperineoplastik [in Danish]. (Vaginal evisceration in spite of colpocleisis and colpoperineoplasty). *Ugeskr Laeger* 1988; 150:867
7. Richardson AC. The anatomic defects in rectocele and enterocele. *J Pelv Surg* 1995;4:214–221
8. Miklos JR, Kohli N. Rectovaginal fistula repair utilizing a cadaveric dermal allograft. *Int Urogynecol J* 1999;10:405–406
9. Ferri J, Simon C, Ruiz, G. Vaginal evisceration: surgical repair with synthetic mesh. *Int J Gynecol Obstet* 1996;54:183–184
10. Iglesia CB, Fenner DE, Brubaker L. The use of mesh in gynecologic surgery. *Int Urogynecol J* 1997;8:105–115

Review of Current Literature

Imaging the Urethral Sphincter with Three-Dimensional Ultrasound

Athanasίου, Khullar V, Boos K, Salvatore S, Cardozo L.

Urogynecology Unit, Department of Obstetrics and Gynecology, King's College Hospital, London, UK
Obstet Gynecol 1999;94:295–301

Three-dimensional transvaginal ultrasound imaging of the urethra and periurethral tissue has been developed and used to compare measurements of the striated urethral sphincter in both stress-incontinent and continent women. The length of the rhabdosphincter was measured in the coronal plane, and its thickness in the transverse plane and its volume were also measured. Reliability was assessed in 14 women. There were 46 women with stress incontinence and 48 controls. Women

with stress incontinence had shorter, thinner and smaller-volume striated urethral sphincters than did continent women. The rhabdosphincter is thicker in its distal third, which concurs with histology in cadaveric urethras.

Comment

Three-dimensional ultrasound was able to be used to define the different layers of the urethra, as an alternative to MRI. Inter- and intraobserver variation was small. Controls were selected only by history and clinical examination, not by urodynamic testing. The utility of this technique may be questioned when it comes to applying knowledge to urethral anatomy.