

TRANSVAGINAL EVISCERATION IN A CASE WITH IATROGENIC CUSHING'S SYNDROME AND NO PREVIOUS GYNECOLOGIC SURGERY

Chung-Yuan Lee, Wen-Kou Wang¹, Yu-Hsiang Lin, Chen-Bin Wang*, Chih-Jen Tseng

Departments of Obstetrics and Gynecology and ¹General Surgery, Chia Yi Chang Gung Memorial Hospital and Chang Gung University, Chia Yi, Taiwan.

Transvaginal evisceration (rupture of the vagina vault and small bowel evisceration through the defect) was first reported in 1907 and is a rare event [1]. During the last century, approximately 100 cases of transvaginal evisceration were reported in English language literature. Most reported cases had histories of gynecologic surgical procedures, such as repair of vaginal prolapse or various hysterectomies (abdominal, vaginal, laparoscopy-assisted or radical) [2–4]. Spontaneous vaginal evisceration without previous gynecologic surgery is extremely rare. In this report, we describe a postmenopausal female with iatrogenic Cushing's syndrome with spontaneous vaginal evisceration. We review the relevant literature and discuss the possible etiologies.

A 78-year-old, gravida 6, para 6, woman presented at our emergency department with sudden onset lower abdominal pain that had started the previous night. A review of her medical history revealed no prior pelvic surgery, and no Papanicolaou examination had ever been performed. All previous births had been by vaginal delivery. The patient denied vaginal trauma and recent sexual intercourse. The patient had taken steroid medication from an unlicensed doctor for approximately 1 year to relieve back pain. Prior to admission, she had suffered from intermittent low-grade fever, and had experienced two episodes of ambiguous vaginal bleeding during the previous month. She had complained of poor appetite, diarrhea, abdominal fullness, and a pelvic bearing-down sensation for several days prior to admission. Her vital signs were: temperature, 37.6°C; pulse, 106 beats/minute; and blood pressure, 140/75 mmHg. Her general appearance was significant for Cushingoid face, truncal obesity, buffalo hump, and paper-thin skin

with bruising. Physical examination revealed generalized abdominal rebound pain. Laboratory results were: white blood count, 14,900/ μ L; segmented neutrophils, 74.8%; albumin, 2.4 g/dL; blood sugar, 153 mg/dL. Other laboratory data were within reference ranges.

Clinical evaluation included an abdominal X-ray series, which indicated possible small bowel obstruction. Abdominal computed tomography revealed severe small bowel dilatation with air–fluid level formation. A gynecologist was consulted because of the complaint of vaginal bleeding and pelvic pressure. Before a gynecologic evaluation could be performed, she experienced sudden evisceration of about 50 cm of small bowel with ischemic changes from the vaginal introitus during urination (Figure 1). The eviscerated small bowel was immediately placed on warm, moist saline-soaked pads, and the patient was then transferred to the operating theatre.



Figure 1. Sudden onset of vaginal evisceration during straining. Approximately 50 cm of the small intestine protruded through the vaginal introitus, of which about 25 cm was gangrenous.



ELSEVIER

*Correspondence to: Dr Chen-Bin Wang, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, 6 Chia Pu Road, Section West, Pu Tz City, Chia Yi 613, Taiwan.

E-mail: brien@ms23.hinet.net

Accepted: January 14, 2008

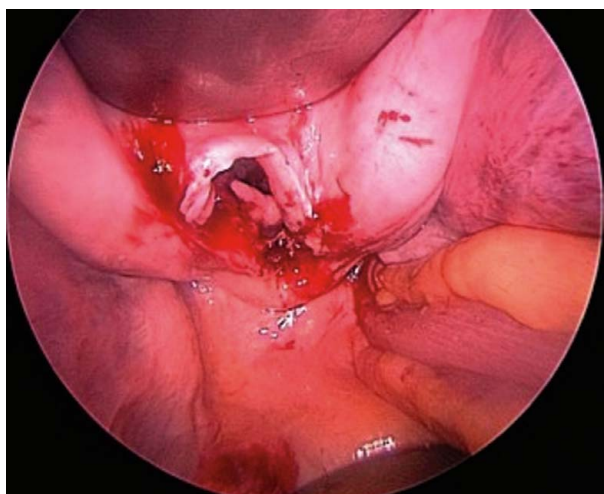


Figure 2. Rupture site at the posterior fornix of the vagina (imaged by laparoscopic camera through laparotomy wound). The length of the rupture site was approximately 4 cm.

An emergent exploratory laparotomy was performed with the patient in the Trendelenburg position. During the operation, the herniated small bowel loop was pulled up through the vaginal defect situated deep in the posterior vaginal fornix (Figure 2). The defect was approximately 4 cm in diameter. The herniated bowel was positioned 50 cm proximal to the ileocecal valve. The replaced bowel exhibited gangrenous changes with fibrin coating over approximately 25 cm of its length. The nonviable parts were resected and continuity was restored by end-to-end anastomosis. Subsequent surgical procedures included abdominal total hysterectomy, bilateral salpingo-oophorectomy, and vaginal cuff suture. The pathology report indicated the vaginal rupture site and found no malignant changes in the vaginal cuff, only squamous hyperplasia and chronic inflammation. The patient developed a postoperative wound infection. She was discharged on the 15th postoperative day following antibiotic treatment. The patient had recovered uneventfully at 6 months of follow-up.

Transvaginal evisceration is a rare and severe complication in both young and elderly patients, especially after pelvic surgery or uterine extirpation [5]. The most recent literature review was reported by Nasr et al [6]. In premenopausal women, transvaginal evisceration is associated with obstetric injury, vaginal cuff infections, vaginal trauma, and unusual sexual practices. In postmenopausal women, it follows high-grade enterocele, vaginal vault prolapse, cervical cancer, and severe cuff atrophy. Symptoms and signs tend to be nonspecific, but may include vaginal bleeding or discharge, pelvic pain, abdominal bearing-down pressure, and a visibly incarcerated bowel [7]. Transvaginal evisceration requires

prompt surgical intervention because of the risk of intestinal loop perforation, necrosis, and general sepsis. Surgery is generally performed using a wide laparotomy and entails gentle reintegration of the prolapsed organs, thorough inspection of the intestinal loops, and intestinal resection in cases of severely damaged intestinal tracts.

Kowalski et al [2] reported that 73% of postmenopausal women with vaginal evisceration had previously undergone vaginal surgery. Very few reports of transvaginal evisceration without pelvic surgery have been published.

A comprehensive MEDLINE search of reports in the English language and relevant references revealed nine publications describing 11 cases [1,7–14]. The 12 reported cases, including the present case, are summarized in the Table. Five patients were premenopausal or younger than 50 years old, and seven were postmenopausal. Except for the two cases in which the site was not mentioned, the rupture site was the posterior fornix of the vagina in all cases, which is the site that sustains the most intra-abdominal pressure. All injuries in the postmenopausal group were attributed to extreme outside forces inducing vaginal lacerations, including obstructed labor, impalement during a motor vehicle accident and postcoital trauma. One woman who suffered evisceration while urinating was also found to have cervical carcinoma after radiotherapy. In the postmenopausal group, four cases were related to outside force or activities resulting in increased intra-abdominal pressure (heavy lifting, coitus, slipping, and surgical accident). Besides old age, the ancillary factors included pelvic prolapse, vaginal cancer, chronic drinking, and prolonged steroid use. One patient in each group died after emergent laparotomy, giving a total mortality of 16.7% (2/12).

The present case involved a postmenopausal female with iatrogenic Cushing's syndrome and no previous pelvic surgery. In addition to her advanced age, chronic pelvic prolapse and long-term corticosteroid therapy also contributed to the spontaneous vaginal rupture and bowel incarceration. Possible causes of weakening of the vaginal apex include the following: (1) tissue anoxia and inflammation causing lysis of collagen; (2) previous pelvic irradiation damaging small blood vessels and impairing collagen formation; (3) mechanical stress due to intra-abdominal pressure while straining; and (4) corticosteroid therapy impairing collagen synthesis [2]. To the best of our knowledge, our present case is the first report showing iatrogenic Cushing's syndrome as a risk factor for transvaginal evisceration.

In conclusion, gynecologic emergency departments should be alert to the possibility of vaginal evisceration

Table. Characteristics of transvaginal evisceration in patients with no history of pelvic surgery

Case	Author	Age (yr)	Site of rupture	Direct cause	Other risk factors	Outcome
Premenopausal						
1	Rolf [8]	35	Posterior fornix	Obstructed labor with transverse lie		Exploratory laparotomy; the patient had a convulsion and died on 15 th postoperative day, probably due to cerebral embolism
2	Lee [9]	39	Posterior fornix	Foreign body, coitus		NA
3	Habeck and Peter [10]	49	Posterior fornix	Straining at toilet	Cervical cancer after irradiation	Transvaginal surgery and repair
4	Croak et al [7]	NA	NA	Impalement during a motor accident		NA
5	Croak et al [7]	NA	NA	After coitus		NA
Postmenopausal						
6	McGregor [1]	63	Posterior fornix	Heavy lifting		Transvaginal repair
7	Daley and Callum [11]	62	Posterior fornix	Prolapse for 2 years		Laparotomy with bowel resection and cecostomy; the patient died after 24 hours
8	Lask [12]	57	Posterior fornix	After coitus		Exploratory laparotomy
9	Friedel and Kaiser [13]	53	Posterior fornix	Slipping in the bathroom	Chronic drinker	Exploratory laparotomy; repair of the fornix defect
10	Friedel and Kaiser [13]	60	Posterior fornix	Surgical accident		Transvaginal repair
11	Howat et al [14]	74	Posterior wall	Vaginal carcinoma	Uterine prolapse	Combined abdominovaginal approach; 15 cm of small bowel was resected. Total hysterectomy, bilateral salpingo-oophorectomy and partial removal of the vaginal tumor were performed and the patient was further treated by radiotherapy
12	Present case	75	Posterior fornix	Chronic use of steroid Straining at toilet	Uterine prolapse	Exploratory laparotomy; nonviable intestinal resection, total hysterectomy, bilateral salpingo-oophorectomy, vaginal cuff repair and suspension were performed

NA = not available.

in postmenopausal females who have received long-term steroid therapy. Rapid diagnosis and aggressive treatment can prevent further ischemia or necrosis of the incarcerated bowel. Finally, when surgery is performed, care must be taken to ensure the integrity of the vaginal cuff scar because of the poor healing capacity of patients with Cushing's syndrome.

References

1. McGregor AN. Rupture of the vaginal wall with protrusion of small intestine in a woman 63 years of age: replacement, suture, recovery. *J Obstet Gynaecol Br Emp* 1907;11:252-8.
2. Kowalski LD, Seski JC, Timmins PF, Kanbour AI, Kunschner AJ, Kanbour-Shakir A. Vaginal evisceration: presentation and

- management in postmenopausal women. *J Am Coll Surg* 1996;183:225-9.
3. Nezhat CH, Nezhat F, Seidman DS, Nezhat C. Vaginal vault evisceration after total laparoscopic hysterectomy. *Obstet Gynecol* 1996;87:868-70.
 4. Dawlatly B, Lavie O, Lopes A. Transvaginal evisceration of small bowel after radical hysterectomy and pelvic lymphadenectomy. *Gynecol Oncol* 1999;73:165-6.
 5. Iaco PD, Ceccaroni M, Alboni C, et al. Transvaginal evisceration after hysterectomy: is vaginal cuff closure associated with a reduced risk? *Eur J Obstet Gynecol Reprod Biol* 2006; 125:134-8.
 6. Nasr A, Tormey S, Aziz MA, Lane B. Vaginal herniation: case report and review of the literature. *Am J Obstet Gynecol* 2005; 193:95-7.
 7. Croak AJ, Gebhart JB, Klingele CJ, Schroeder G, Lee RA, Podratz KC. Characteristics of patients with vaginal rupture and evisceration. *Obstet Gynecol* 2004;103:572-6.
 8. Rolf BB. Vaginal evisceration. *Am J Obstet Gynecol* 1970;107: 369-75.
 9. Lee TT. A cucumber in the abdomen penetrating through the vagina. *Med J Malaya* 1970;25:53.
 10. Habeck EA, Peter LM. Evisceration of bowel through the vagina following irradiation for cervical carcinoma: report of first known case. *Wis Med J* 1968;67:374-5.
 11. Daley D, Callum EN. A case of intestinal obstruction associated with complete procidentia. *J Obstet Gynaecol Br Emp* 1946;53:68-9.
 12. Lask S. Perforation of the posterior fornix and pouch of Douglas during coitus. *Br Med J* 1948;1:786.
 13. Friedel W, Kaiser IH. Vaginal evisceration. *Obstet Gynecol* 1975;45:315-9.
 14. Howat JM, Stassan L, Mohandas I, Daw E. Carcinoma of the vagina presenting as a ruptured procidentia with an entero-vaginal fistula and prolapse of the small bowel. *Postgrad Med J* 1984;60:435-6.