Case report

Delayed presentation of vaginal cuff dehiscence and evisceration loop of bowel nine month after laparoscopic hysterectomy: A case report

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A B S T R A C T

Introduction and importance: Vaginal cuff dehiscence (VCD) is an extremely rare condition and requires emergency surgery due to the possibility of developing acute small bowel ischemia, peritonitis, and sepsis. Etiology is unclear but multifactorial.

Case presentation: A 57-year-old nullipara postmenopausal female patient with small bowel evisceration due to vaginal cuff dehiscence while having sexual intercourse six hours earlier on arrival to the hospital. She had a history of laparoscopic hysterectomy 9 months before. For that reason, we performed an emergency laparotomy which we reduced the intestine and we closed vaginal cuff.

Clinical discussion: Dehiscence of the vaginal cuff and evisceration involve rupture of the proximal vaginal cuff, resulting in the expulsion of intraperitoneal contents. This is unusual case can be identified clinically, and the management is surgical which can be performed transvaginal and transabdominal approach to repair the vaginal cuff. However, before repairing the vaginal defect, the bowel should be checked if there is any doubt about the need for bowel resection and anastomosis.

Conclusion: Transvaginal evisceration is a very rare disease that can be life-threatening. It needs to be identified quickly and treated surgically to prevent small bowel ischemia.

1. Introduction

Dehiscence of the vaginal cuff and evisceration involve rupture of the proximal vaginal cuff, resulting in the expulsion of intraperitoneal contents. Due to the risk of developing acute small bowel ischemia, peritonitis, and sepsis, evisceration of the bowel through the vagina is a very unusual occurrence and a life-threatening surgical emergency [1].

Transvaginal intestinal prolapse is an infrequent surgical case that can be fatal, and less than 100 cases have been documented in English literature since the initial report by Hypernaux et co. in 1864 [1,2]. The precise incidence of vaginal cuff dehiscence is difficult to determine since the definition and incidence differ from study to study. A study reported that the incidence of vaginal rupture after any type of pelvic surgery is 0.03 % [3]. Another study that included only laparoscopic total hysterectomy (TLH) and robotic hysterectomy reported higher incidence rates (1–4.1 %) [4].

Because of its rarity, the medical team can confuse it and fail to recognize it early. In this rare circumstance, which can occur as a complication after pelvic surgery at any time, so, the medical team needs to be ready to handle this kind of serious emergency as quickly as possible. The goal of this case report is to bring attention to a very rare and very deadly condition, so, to prevent small bowel ischemia, early detection and emergency surgery are mandatory.

2. Case presentation

A 57-year-old nullipara postmenopausal woman presented to our gynecology and obstetrics department with acute abdominal pain with evisceration of a loop of small bowel outside the vaginal introitus. The patient had noticed increasing abdominal pain, described as sharp pain, watery vaginal discharge, and pressure, which developed while having sexual intercourse six hours earlier on arrival to our hospital; the intensity of abdominal pain was increasing and was associated with excessive sweating and a single episode of diarrhea. Then she saw something bulging out of her vagina. She denied any other gastrointestinal or genitourinary symptoms. She had undergone TLH with bilateral salpingo-oophorectomy (BSO) due to a borderline ovarian tumor 9 months ago the vaginal cuff closure method applied was

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Abbreviations: TLH, total laparoscopic hysterectomy; BSO, bilateral salpingo-oophorectomy; VCD, vaginal cuff dehiscence.

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She promptly had an emergency surgery by the gynecology and general surgery team. First, after reduction of the intestine, we attempted to repair the cuff transvaginally, but it was too high to reach. Then, we changed to laparotomy, making a lower midline vertical incision, and the entire small bowel was inspected and determined to be viable but edematous, inflamed (Fig. 2). The vaginal cuff was necrotic, and the defect was about 4 cm in diameter. Hence, partial resection of the cuff was done after separation anteriorly from the bladder and we used two-layer continuous sutures with no. 1 vicryl to repair the vaginal cuff and did abdominal lavage. Last, we put a drain in the abdomen for follow-up of any bowel injury. On postoperative day four, the patient’s condition had improved physically, clinically, and mentally, and she was discharged home on foot. She came for follow-up two times in the first and second weeks after discharge. She has fully recovered. This report has been written in line with SCARE guidelines [5].

3. Discussion

Vaginal cuff dehiscence is a well-known but uncommon side effect of pelvic surgery. Since the initial report by Hypernaux et co. in 1864 [2], only around 100 cases have been documented in the literature, and the data suggests that roughly 70 % of the patients are postmenopausal women. 73 % had vaginal surgery before, and 63 % had enterocoele. Reduced vaginal wall vascularity and vaginal wall atrophy have been related to an increase in occurrence in postmenopausal women. In premenopausal women, it’s linked to sexual activity and vaginal injury [6,7]. Vaginal cuff dehiscence can happen at any time after pelvic surgery, and it has been reported as early as 3 days after the procedure and as late as 30 years later [8,9].

The cause is unknown, but types of colpotomy and vaginal closure have been linked to VCD, with colpotomy happening more often during laparoscopic surgeries having a high frequency of VCD. The study also showed that comparing complete laparoscopic hysterectomy with transvaginal suture, there was no significant difference in cuff separations, which means similar to the separation rate found after open and vaginal hysterectomy. They report that using monopolar energy, regardless of the amount of power used, is not related to an increased incidence of vaginal cuff dehiscence [10]. Several authors disagree, believing that the cauterization associated with the use of a monopolar knife, as well as the resulting cell necrosis and tissue damage, may have a negative impact on cuff healing and should be considered the primary cause of the concerning link between endoscopic hysterectomy and the risk of cuff separation [11]. The 10 risk factors for vaginal cuff dehiscence Somkuti et al. described after an abdominal or vaginal hysterectomy: (1) poor technique, (2) postoperative infection, (3) hematoma, (4) coitus before healing, (5) age, (6) radiotherapy, (7) corticosteroid therapy, (8) trauma or rape, (9) the previous vaginoplasty, and (10) use of the Valsalva maneuver [12]. Lifestyle, obesity, multiparous women, past pelvic radiotherapy, and poor collagen synthesis are just a few of the numerous variables that might impact this condition [7,13–15]. Examples of aggravating factors that might lead to an evisceration include recent vaginal surgery or injury, coughing, constipation, or any other reason that would raise the intra-abdominal pressure quickly in the context of pelvic floor weakness [16–18]. Transvaginal intestinal evisceration in premenopausal women is unusual and commonly related to instrumentation, obstetric trauma, or coital trauma, and vaginal lacerations [3,7,19,20].

Our patient is postmenopausal and underwent a laparoscopic hysterectomy 9 months earlier. She also has an occupational history of working as a weightlifter, and also that she had sexual intercourse, which was a provoking factor for VCD.

Transvaginal evisceration is a potentially life-threatening (up to 8 % mortality) and distressing condition that necessitates immediate surgery, evisceration loops of the intestine must be reduced quickly, and the bowel must be assessed to determine its viability [6]. both transvaginal and transabdominal methods may still be done to repair the vaginal cuff. However, before repairing the vaginal defect, the bowel should be checked if there is any doubt about the need for bowel resection and anastomosis. In our case, we performed emergency laparotomy, to reduce the small bowel and repaired the vaginal cuff transabdominal approach since the transvaginal approach was unsuccessful because the vaginal cuff was too high.
4. Conclusions

Transvaginal evisceration is a very rare disease that can be life-threatening. It needs to be identified and treated as quickly as possible. Surgeons don't often see this kind of unusual condition, but they still need to be ready for it so they can give the high-quality surgical care and prevent deadly complications including bowel ischemia and sepsis.

Ethical approval

Ethical approval not applicable for the case reports.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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Guarantor

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Credit authorship contribution statement

Khadija Yusuf = Study concept, Data collection, writing and surgical therapy for the patient.
Samira Ahmed = senior author, manuscript reviewer, and surgical therapy for the patient.

Declaration of competing interest

The authors declare that this study has no conflict of interest.

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References

[1] Abdullah M. Rana, Abdul Ahad Rana, Yasser Salama, Small bowel evisceration through the vaginal vault, Cureus (October 20, 2019) 3.
[2] RUPTURE TRAUMATIQUE DU VAGIN. n.d. HYERNAUX, M. Le Docteur.
[3] A.J. Croak, et al., Characteristics of patients with vaginal rupture and evisceration, 3, in: Obstetrics and Gynecology 103, 2004, pp. 572-576.
[4] Rosanne M. Klo, et al., Incidence and characteristics of patients with vaginal cuff dehiscence after robotic procedures level of evidence: IIl, Obstet Gynecol 114 (2009),
[5] Riar A. Agha, Thomas Franchi, Catrin Sobrabi, The SCARE 2020 guideline: updating consensus Surgical CAsE REport (SCARE) guidelines, England (2020) 17, s.n.
[6] Said Ait Laalim, Adénocarcinome vaginal primitif de type intestinal: Cas clinique et revue de la littérature, Pan African Medical Journal (2013) 1–6.
[7] Rogério Senafim Parra, José Joaquim Ribeiro da Rocha, Omar Ferres, Spontaneous transvaginal small bowel evisceration: A case report, Clinics 65 (2010) 559–561.
[8] R.J. Cardoni, et al., Vaginal evisceration after hysterectomy in premenopausal women, in: The American College of Obstetricians and Gynecologists 94, Elsevier Science Inc, 1999,
[9] U. Gheewala, et al., Transvaginal small bowel evisceration in known case of uterine prolapse due to trauma, J. Clin. Diagn. Res. 9 (2015) 9–10.
[10] S. Uccella, et al., Effect of different types of colpotomy and vaginal closure, in: The American College of Obstetricians and Gynecologists 120, Lippincott Williams & Wilkins, 2012, pp. 516–523.
[11] H.C. Hur, et al., Incidence and patient characteristics of vaginal cuff dehiscence after different modes of hysterectomies, J. Minim. Invasive Gynecol. 14 (2007) 311–317.
[12] S.G. Somkuti, et al., Transvaginal evisceration after hysterectomy in premenopausal women: A presentation of three cases, 2, American Journal of Obstetrics and Gynecology 171 (1994) 567–568.
[13] P. Rogers, Hong Lee, Kedar Jape, et al., Vaginal evisceration of small bowel, Journal of Surgical Case Reports 2019 (11) (2019) 1–3.
[14] E.Y. Amakpa, G.A. Hernandez-Gonzalez, E. Camejo-Rodriguez, Small bowel evisceration in a perforated uterine prolapse, Ghana Med. J. 55 (2, 2021) 156–159.
[15] J.R. Negrete, et al., Transvaginal evisceration of the small bowel a rare and potentially lethal event, a case report, Annals of Medicine and Surgery 65 (2021) 1–3.
[16] A.K.Y. Chan, et al., Transvaginal Evisceration of the Small Bowel More Than 15 Years After Abdominal Hysterectomy and Vaginal Surgery, Cureus 13 (3) (2021) 1–4.
[17] McMaster Brian C, Molins Caroline, Small bowel evisceration after spontaneous vaginal cuff rupture, Cureus 11 (8) (2019) 1–3.
[18] U. Gheewala, et al., Transvaginal small bowel evisceration in known case of uterine prolapse due to trauma, Journal of Clinical and Diagnostic Research 9 (2015) 9–10.
[19] N.N. Gujar, et al., Coitus induced vaginal evisceration in a premenopausal woman: A case report, 1, Patient Safety in Surgery 5 (2011),
[20] M.D. Moen, M. Denai, R. Sulkowski, Vaginal evisceration managed by transvaginal bowel resection and vaginal repair, 3, International Urogynecology Journal 14 (2003) 218–220.