Case Report

A Small Bowel Prolapse through Ruptured Vaginal Vault Secondary to Infiltration of a Malignant Tumour in the Region

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Abstract
We report a case of an 86 year old female who presented to the emergency department with small bowel prolapsing through a ruptured vaginal vault which initially was thought to be secondary to an acute exacerbation of her chronic cough by a recent chest infection. Small bowel was successfully reduced followed by a Posterior vaginal wall repair which was carried out under spinal anaesthesia. The patient had an uneventful postoperative course and was discharged home after six days. Four months later she presented to emergency department with one week history of colicky lower abdominal pain and abdominal distension and a CT scan showed small bowel obstruction. She had exploratory laparotomy, loop ileostomy, biopsy of omentum and repair of caecal serosal tear. Post op she was on ITU and died of Aspiration pneumonitis after 4 days. The histology report of the tissue from vaginal vault sent during previous transvaginal vault support and posterior vaginal wall repair reported as ‘highly suspicious for infiltration of a malignant tumour’ in the region. The diagnosis was disseminated intra-abdominal malignancy from ovarian high grade tumour. After reviewing this case it would be worthwhile considering the possibility of ovarian malignancy in patients with vaginal vault rupture and investigate further.

ABBREVIATIONS
COPD: Chronic Obstructive Pulmonary Disease

INTRODUCTION
Vaginal evisceration following a hysterectomy is a very rare condition and it was first reported in the literature in 1864 [1]. Small bowel is the commonest organ to prolapse through a ruptured vaginal vault [2]. The incidence of mortality in vaginal evisceration is 5.6 percent and the incidence of morbidity becomes higher when the bowel has become strangulated [3]. Here we report a case of Small bowel prolapse through ruptured vaginal vault secondary to infiltration of malignancy in the region.

CASE PRESENTATION
An 86 year old female presented to emergency department with a sudden prolapse of bowel through her vaginal vault following an episode of coughing. This was associated with dull lower abdominal discomfort and slight vaginal bleeding. There was no history of abdominal or vaginal trauma.

This patient had multiple co morbidities, including ischaemic heart disease, two previous myocardial infarctions, hypertension and left ventricular failure. Her respiratory function was limited by chronic obstructive pulmonary disease (COPD) and fibrosing alveolitis and she had previous deep vein thrombosis 19 years ago. Prior to admission she lived independently with help from her daughter.

She had vaginal hysterectomy in 1980 for bleeding. She developed a vaginal vault prolapse three years ago, this was managed with a ring pessary by her general practitioner, but it has become increasingly more difficult to manage. A week before her presentation she developed a chest infection which exacerbated her chronic cough.

On examination she looked frail and short of breath but was haemodynamically stable. Her abdomen was soft but tender over the lower abdomen and bowel sounds were present. On vaginal examination, about 15cm of small bowel was identified prolapsing through her vagina and sitting outside her body. The exposed small bowel appeared congested and oedematous but viable. Initially a temporary reduction was done in emergency department under sedation until definitive treatment was undertaken.
A high risk consent form was obtained. The procedure was undertaken under spinal anaesthesia. Initial assessment revealed a Pelvic Organ Prolapse Quantification system (POPQ) stage 3 vaginal vault prolapse, with a large dehiscence in it leading to the pouch of Douglas (Figure 1). The edges of the dehiscence looked ischaemic; the small bowel was well contained within the abdominal cavity (Figure 2).

She had a successful transvaginal vault support and posterior vaginal wall repair under spinal anaesthesia as it was felt that she was a poor candidate for general anaesthesia (Figure 3).

Post operatively she had uneventful recovery and was discharged home in a stable condition six days after admission. She was followed up in the clinic after six weeks and she was doing extremely well at that time.

4 months later she again presented to the emergency department with one week history of colicky lower abdominal pain and abdominal distension. This was also associated with one episode of dark black colour vomit. She has not opened her bowels for approximately 3 days and not passed any wind for 1 day.

On examination she was haemodynamically stable with a pulse of 90/min and blood pressure of 139/58. She had a respiratory rate of 28/min, oxygen saturations of 90% on 2L O2 and temperature of 36.6 degree centigrade. She has got bi basal course crepitations on chest examination. Her abdomen was distended but soft and non-tender on palpation. On rectal examination she has got brown faeces with no evidence of blood or malaena. Abdominal radiograph showed dilated small bowel loops and faecally loaded ascending colon, features keeping with partial small bowel obstruction with no evidence of perforation. She had CT scan of abdomen and pelvis which showed Small bowel obstruction probably secondary to omental thickening with point of transition in proximal transverse colon, where there is some thickening and adjacent omental involvement, small free fluid around liver and in pelvis and no free gas.

She had exploratory laparotomy, loop ileostomy, biopsy of omentum and repair of caecal serosal tear on the following day of admission. The findings on laparotomy were large amount of cloudy ascitic fluid, disseminated omental tumour adherent to right pelvic brim and studdings of distal small bowel with tumour deposits involving mesentery to terminal ileum and causing obstruction of the same. As it was impossible to release the obstruction of the terminal ileum and felt unsafe to proceed with a bypass procedure, a loop of distal small bowel approximately 40cm proximal to terminal ileum was brought out through the anterior abdominal wall in the right iliac fossa.

Post op she was on ITU for one day and then transferred to ward. She developed aspiration pneumonitis and was treated with antibiotics. She and her family were explained the likely diagnosis of cancer and poor prognosis. She was reviewed by palliative care team and she was kept comfortable as she does not wish for aggressive intervention. She passed away four days after operation.

The histology report of the tissue from vaginal vault sent during previous transvaginal vault support and posterior vaginal wall repair reported as 'highly suspicious for infiltration of a...
malignant tumour in the region’ but unfortunately this report was acknowledged only after patient died.

The diagnosis was disseminated intra-abdominal malignancy from ovarian high grade tumour.

DISCUSSION

Vaginal eversion is a rare condition and the aetiology of vaginal eversion is unclear and there is no particular pattern of events [4,5].

The most common risk factors include the triad of postmenopausal atrophy, previous vaginal surgery and enterocele [6,7]. It has been observed that the majority of reported cases were among post-menopausal women, possible secondary to the effects of age on the integrity of the vaginal wall and vascularity [7]. Increased intra-abdominal pressure was the most common precipitating factor in women with vaginal eversion after vaginal hysterectomy whereas sexual intercourse was the most common precipitating factor after total laparoscopic hysterectomy.

Evisceration has previously been reported as a complication during pessary insertion [8,9]. There was a case report which suggested that the pressure effects of a ring pessary may have contributed to a vaginal eversion in a 56 year old female one month after pessary insertion [9].

Another case report, which also suggested vaginal eversion of small bowel following intraperitoneal chemotherapy for advanced ovarian cancer in a 63-year-old woman [10].

In this presented case, the patient had several precipitating factors which were thought to be the cause of her vaginal vault rupture. She was a postmenopausal woman who had a vaginal hysterectomy and then developed a vaginal vault prolapse. She had recent chest infection which exacerbated her chronic cough leading to raised intra-abdominal pressure. Also she had a history of repeated pessary insertions to manage her vaginal prolapse which may also have damaged the already thin vaginal vault. Due to the above reasons and her uneventful post op recovery there was no suspicion of malignancy during and after her first presentation.

Ovarian cancer is the leading cause of death from gynaecological cancer in the UK, and its incidence is rising. It is the fifth most common cancer in women, with a lifetime risk of about 2% in England and Wales. Every year, within the UK, around 6,800 women are diagnosed with ovarian cancer, two-thirds of whom sadly die from the disease within five years. Ovarian cancer is also known as the ‘silent killer’ because the presenting symptoms can be non-specific, resulting in delays in further investigations and subsequent diagnosis. 70% of cases are diagnosed at an advanced stage, which means that treatment will not be curative but aimed at maintaining prolongation of good quality life. Symptoms of ovarian cancer include persistent abdominal distension (women often refer to this as ‘bloating’), feeling full (early satiety) and/or loss of appetite, pelvic or abdominal pain, increased urinary urgency and/or frequency.

The outcome for women with ovarian cancer is generally poor, with an overall 5-year survival rate of less than 35%. This is because most women who have ovarian cancer present with advanced disease. The stage of the disease is the most important factor affecting outcome.

According to NICE guidelines current advice is for all women over 50 to remain vigilant, to try as much as they can to lead healthy lifestyles and to be aware of new and persistent symptoms which might indicate trouble.

CONCLUSION

Looking through the literature we did not find ovarian malignancy as one of the factors for vaginal vault rupture, however reviewing this case it would be worthwhile considering the possibility of ovarian malignancy in patients with vaginal vault rupture and investigate further once the immediate management of patient is completed.

REFERENCES

2. Clarke RG, McGinn FP. Acute Abdomen In A Rare Case Of Vaginal Eversion Following Subtotal Hysterectomy. Internet J Gynecol Obstet, 2007; 6: 2(s).

Cite this article