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WisdomGale

CASE REPORT

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A rare case of Pouch of Douglas hernia-Atypical presentation in a postnatal mother

Abirami Mahadevan[1], Divya Sugumaran[1], Ramprasad Jothimani[2,3]

[1]Barnard Institute of Radiology, Madras Medical College, Chennai, India

[2]Devaki scans, Madurai, India

[3]Department of Radiodiagnosis, Barnard Institute of Radiology, Madras Medical College, Chennai, India

ABSTRACT

Background: Internal hernias are quite rare which constitutes right and left paraduodenal, trans-mesenteric hernia, and pelvic hernias.

Case Presentation: A 23-year-old female postnatal mother delivered 4 months back, IUCD was inserted post delivery now presented with C/O greenish discharge PV and vaginal fullness. Ultrasound showed a few dilated small bowel loops. Computed tomography revealed multiple dilated fluid-filled small bowel loops suggestive of subacute small bowel obstruction. Herniation of the small bowel loops into the cul-de-sac is noted. MRI revealed the small bowel loops in cul-de-sac herniating through the fornix into the vagina. Intraoperatively, small bowel loops were seen herniating through a defect in the POD on the right side into the fornix and formed a sac within the vagina. A sealed perforation was seen within the herniated loop and short segment gangrene was identified. Resection and anastomosis of the bowel loop along with the closure of the defect in broad ligament defect was done.

Conclusion: Pelvic hernia through the defect in cul-de-sac is very rare and high clinical suspicion is needed to diagnose this rare condition. Radiological knowledge of this rare entity in a patient with small bowel obstruction aids in early diagnosis and intervention avoiding the complications of bowel ischemia.

ARTICLE HISTORY

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KEYWORDS

Pouch of Douglas; internal hernia; small bowel obstruction

Introduction

Pelvic internal hernias include hernias through the broad ligament, perirectal fossa, and pouch of Douglas [1]. An internal hernia (5%–7%) through a peritoneal defect of the pouch of Douglas is extremely rare. Internal hernia presenting with small bowel obstruction is very case (0.5%–6.8%). The diagnosis is made only on surgery. A preoperative diagnosis is very challenging due to the absence of characteristic imaging findings and rarity of this condition. A high clinical suspicion is needed to diagnose this rare entity. We report a rare case of pelvic hernia presenting with small bowel obstruction in a young postnatal mother.

Case Report

A 23-year-old P2 L2 female came with C/O greenish discharge PV and vaginal fullness. She is a postnatal mother who had a normal spontaneous vaginal delivery 4 months back. Manual compression was given during parturition. Post natally her vitals were stable and IUCD was inserted before discharge.

Two days later, she had a complaint of persistent vaginal discharge and she developed acute abdominal pain and distension. She refused for pervaginal examination. In view of the greenish vaginal discharge, pelvic inflammatory disease was suspected, and she was treated for the same with oral antibiotics. Blood investigations revealed leucocytosis and anemia. Since she had abdominal distension ultrasound of the abdomen was advised.

Ultrasound of the abdomen and pelvis showed a few dilated small bowel loops. Uterine contour was not made out and bowel gas shadow obscured the view of adnexa and ovaries. A diagnosis of small bowel obstruction possibly due to adhesions was given.

Contact Divya Sugumaran divyasugumaran9258@gmail.com Barnard Institute of Radiology, Madras Medical College, Chennai, India.

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Figure 1. Computed tomography CT axial section showed hernial sac with bowel contents in Pouch of Douglas (white arrow) between the uterus (black arrow) and rectum(white arrow head).

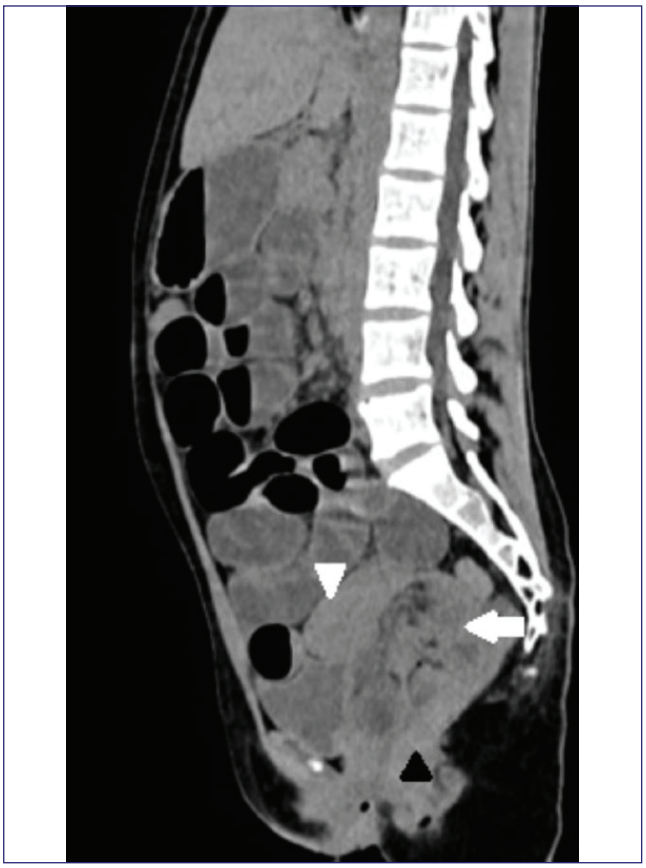


Figure 2. Computed tomography CT sagittal section showed hernial sac with bowel contents in Pouch of Douglas (white arrow) between the uterus (white arrow head) and rectum (black arrowhead).

The patient was subjected to a CT scan of her abdomen and pelvis to look for the cause of obstruction and to delineate the transition zone of obstruction. Plain and contrast-enhanced CT of the abdomen and pelvis revealed multiple dilated fluid-filled small bowel loops suggestive of subacute small bowel obstruction. Herniation of the small bowel loops into the Pouch of Douglas is noted (Figs. 1–3).



Figure 3. Computed tomography CT coronal section showed a peritoneal defect in right hernial sac with bowel contents in Pouch of Douglas (white arrow).

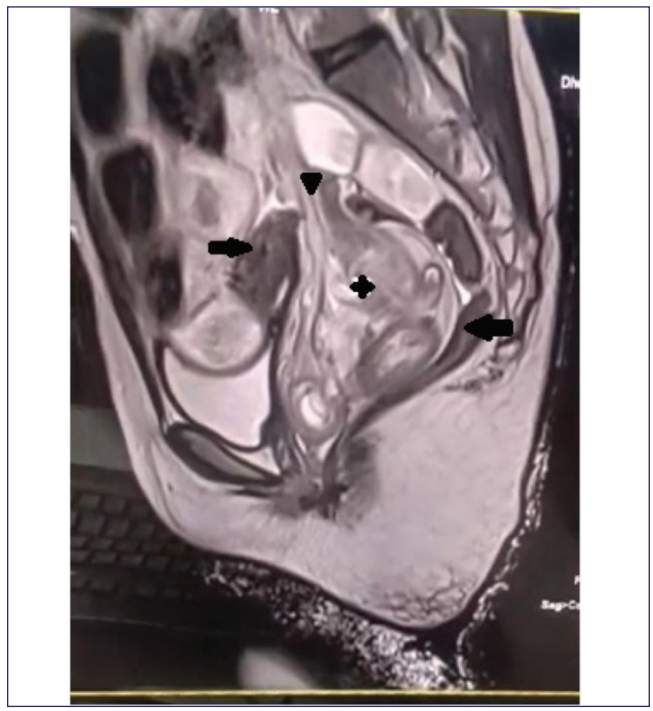


Figure 4. Magnetic resonance imaging sagittal section showed a peritoneal defect **(**black arrow head) with herniation of bowel contents into the vagina(four point star) between the uterus anteriorly (black arrow) and rectum posteriorly(black arrow)

A diagnosis of internal hernia with enterocele causing small bowel obstruction was given.

MRI revealed the small bowel loops in Pouch of Douglas herniating through the fornix into the vagina (Figs 4 and 5). A pouch of Douglas hernia- a

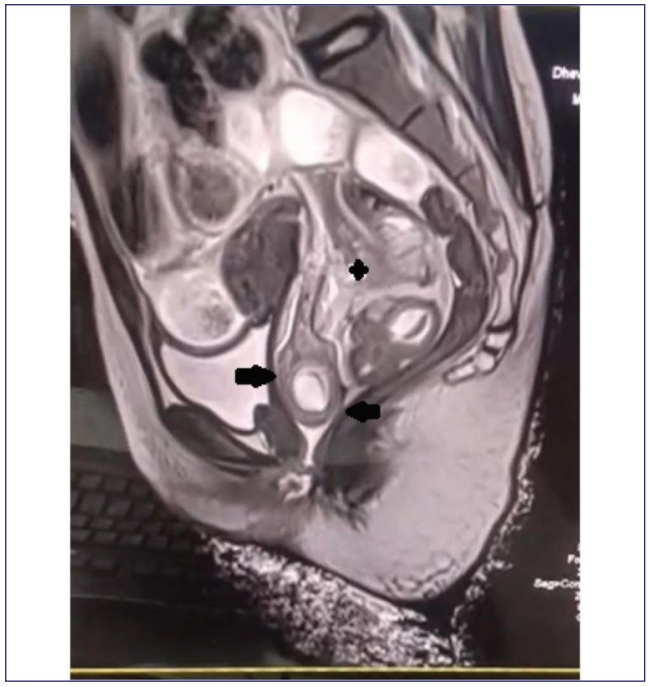


Figure 5. Magnetic resonance imaging sagittal section showed hernial sac with bowel contents in vaginal cavity (four point star), "black arrows" indicate anterior and posterior wall of vagina.

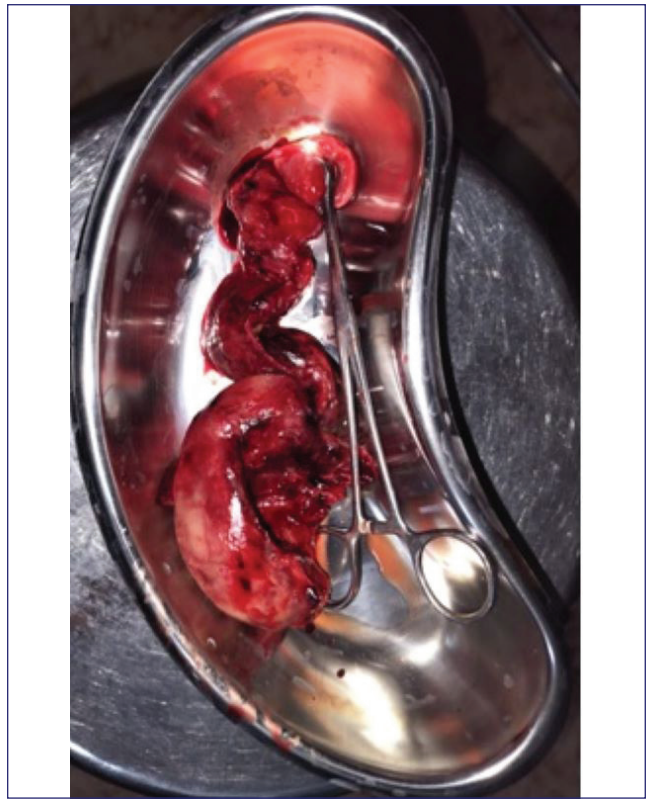


Figure 6. Intraoperative specimen shows gangrenous segment of small bowel loops.

type of pelvic hernia causing small bowel obstruction was diagnosed.

The clinician was informed. The patient was admitted after explaining the complications of the hernia and the possibility of strangulation. A complete hemogram was done which revealed anemia and mild leucocytosis. Viral markers were found to be negative. No bleeding disorders were seen. The patient was kept on nil per oral since admission. She was started on IV antibiotics. Then she was taken up for laparotomy. An intraoperative blood transfusion was given.

Intraoperatively, dilated small bowel loops were seen. A few loops were seen herniating through a defect in the Pouch of Douglas on the right side into the fornix and formed a sac within the vagina. A sealed perforation was seen within the herniated loop and short segment gangrene for a length of 60 cm was identified (Fig. 6). Resection and anastomosis of the bowel loop along with the closure of the defect in broad ligament defect was done. Post operatively the patient was stable.

Discussion

Internal hernias are quite rare (from 0.5% to 4.1% of all hernia) which constitutes right and left paraduodenal, trans-mesenteric hernia, and pelvic hernias. Pelvic hernia constitutes only 7% of the internal hernia. Internal hernia causing small bowel obstruction is very rare (0.6%–5.8%) of small bowel obstruction of all causes. Pelvic hernias include broad ligament, the pouch of Douglas, and perirectal hernias [1]. Pelvic hernia through the defect in Pouch of Douglas is very rare and high clinical suspicion is needed to diagnose this rare condition. Perineal hernias include pelvic hernias, ischiorectal hernias, pudendal hernias, posterior labial hernias, subpubic hernias, vaginal hernias, and hernias of the (rectouterine) pouch of Douglas. Pouch of Douglas is a peritoneal reflection between the uterus and the rectum. Peritoneal defect through the Pouch of Douglas can be congenital or iatrogenic, following hysterectomy [1].

Only a few cases are reported in this entity. Commonly, it is seen following a hysterectomy. In young patients, the congenital defect is the etiology. A PubMed search for cases of internal hernia through a defect in the pouch of Douglas revealed only four cases. Three cases were young females without any history of surgery. So congenital etiology was ascertained as a cause of the internal hernia. One of them had a history of hysterectomy and surgical defect was the cause for the hernia.

Our patient is a postnatal mother who had a complicated labor, and underwent manual uterine compression during delivery. Pouch of Douglas hernia usually presents with acute abdominal pain and varying degrees of bowel obstruction. The imaging findings are not usually characteristic and high clinical suspicion can lead to appropriate management and avoid the complications of hernia [2].

Imaging findings of Pouch of Douglas hernia in computed tomography usually demonstrate signs of small bowel obstruction. A few clumps of dilated small bowel loops can be seen posterior to the uterus protruding into the vagina. Imaging features are not characteristic and peritoneal defects cannot be made out. Awareness of this rare entity and its atypical presentation can help in the proper diagnosis and early intervention of the patient. Magnetic resonance imaging can aid in detecting the area of dehiscence of the hernial sac due to its inherent multiplanar imaging and high soft tissue resolution.

Surgery is ideal for diagnosing the Pouch of Douglas defect. Imaging can give a clue to the diagnosis with the help of the reformatted images. A clue to the diagnosis is the presence of the small bowel loops posterior to the uterus.

Due to the rare occurrence of the entity, high suspicion of this diagnosis, and using the reformatted images we can arrive at this diagnosis. However, it is difficult to distinguish between the Pouch of Douglas hernias with other pelvic hernias like perirectal hernias. Lee et al. [1] has described hernias through the broad ligament showing the displacement of the uterus or broad ligament and a cluster of dilated small bowel loops located lateral to the uterus on CT.

The treatment option can be an open transabdominal approach or a laparoscopic approach. Open reduction with repair of the defect is usually done. The use of mesh was described in a case by Bunni et al. [3.] Suwa et al. [2] has proposed that since internal hernias are not caused by fragility of musculofascial tissues, the use of prosthetic mesh is not mandatory. Lee et al. [1] stated that strangulating of small bowel obstruction is the most common manifestation of internal hernias, therefore, early detection and surgical intervention are crucial for reducing the morbidity and mortality rates. According to Suwa et al. [2] in perineal hernias, strangulation is rare since the hernia defect is usually large and bounded by soft and often atrophied muscle. In our case, the patient presented with strangulation, so resection of the strangulated bowel loops was done.

Conclusion

Radiological knowledge of this rare entity in a patient with small bowel obstruction aids in early diagnosis and intervention avoiding the complications of bowel ischemia [4].

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