

Bowel Perforation in Pregnancy: Case Report

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Introduction:

Bowel perforation is a common cause of acute abdomen. While it is the second most common non-obstetric abdominal emergency in pregnancy the occurrence in pregnancy is rare with an incident rate of 0.001 – 0.003%, even though . Bowel perforation carries a high mortality rate with 17% for the fetus and 2% for the mother.

Case Report:

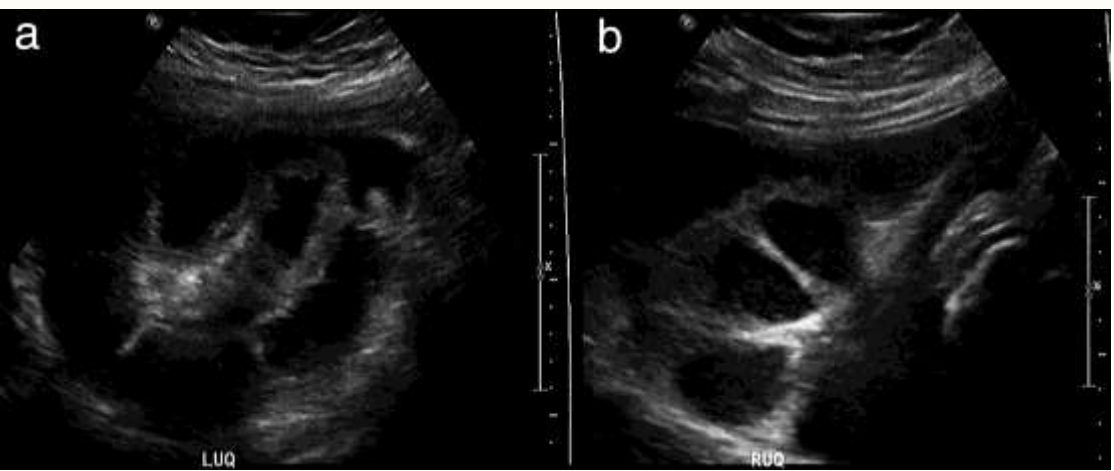
A 35-year-old primigravida, with a background history of hypothyroidism, PCOS, B12 deficiency, and a BMI of 39.4 had assisted conception and was well antenatally. Her routine scans were normal, with a breech baby, and the patient was brought in at 37+5 weeks gestation for steroids for a maternal request for caesarean section. On Day 1 of admission, she was well and received 1st dose of steroids. On Day 2 morning the patient reported sharp LIF pain which progressively worsened post opening bowels. She was managed with analgesia. Blood investigations and Ultrasound abdomen were normal. The patient had decreased appetite and reported not passing flatus. Day 3 continued with normal vital signs and abdominal discomfort. By late evening on Day 3, as the pain worsened, and she had a category 2 emergency section. During the caesarean birth, purulent fluid was noted on opening the peritoneal layer. The baby was delivered with clear liquor noted. Foul smelling pus was noted on both ovaries and tubes. The appearance was of a retro sigmoid perforation with 4-quadrant purulent peritonitis with densely adherent layers of the small bowel. Extensive deposition of fibrinous exudate on small bowel was also noted. Bowel resection was performed with a colostomy. B lynch suture was required for uterine atony and blood loss was 1800ml. She recovered well and was discharged home Day18 post operatively. Histology report showed Deep infiltrating Endometriosis on the bowel segment.

Clinical Diagnosis:

Bowel perforation in pregnancy is a difficult diagnosis as the symptoms are vague. The pregnant uterus can make palpating for masses and assessing for fluid in the abdomen more difficult. Signs and symptoms may not be present in the expected quadrant of the anterior abdominal wall. The displacement of the omentum can limit its ability to compartmentalize inflammation. Altered immune system may blunt the usual immune response a woman would mount against an infection.

Signs	Symptoms
Abdominal Pain,	Abdomen distended and tympanic
Nausea & Vomiting	Different degrees of rigidity and guarding
Diarrhea or Constipation, with inability to pass flatus or faeces	Uterus not easily palpable
	Bowel sounds-high pitched or absent

Imaging



Ultrasound imaging
ref: Ultrasound in Obstetrics & Gynecology,
Volume: 48, Issue: 3, Pages: 403-404, First
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MRI
ref:Rauff et al 2012

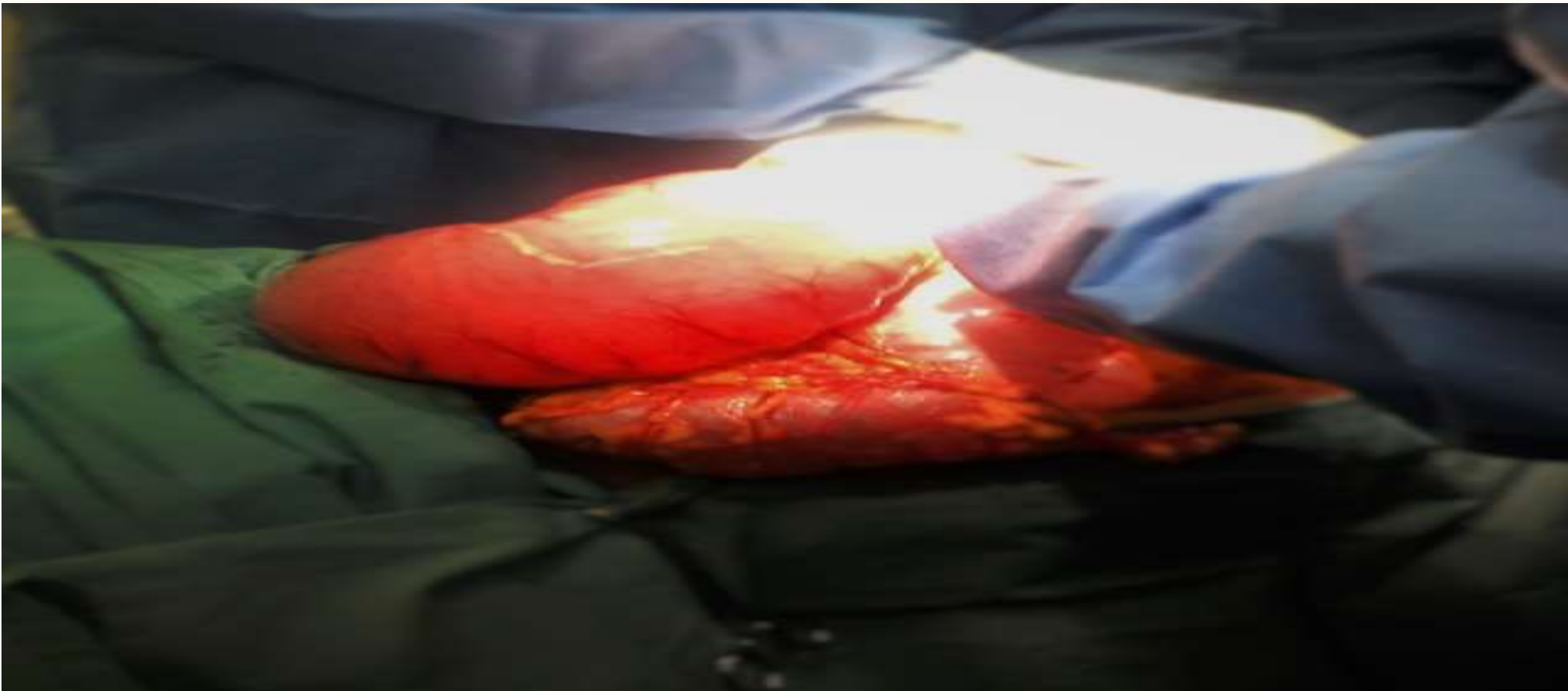
*MRI is the main recommended mode of imaging

*CT is controversial due to small risk of childhood leukemia.

*Point-of-care sonographic diagnosis of maternal small bowel obstruction during pregnancy is also noted.

Management

- Conservative, if no signs of peritonitis/Ischemia/strangulation:
 - NPO
 - Fluids
 - Electrolyte replacement
 - Bowel decompression
- Surgical:
 - MDT
 - Laparoscopy vs laparotomy



Volvulus in pregnancy
Serafeimidis et al 2016

Causes:

Adhesions (70%), Volvulus (25%), Malignancies, Hernia, Intussusception, Crohn’s Disease, Deep infiltrating endometriosis (DIE). In DIE bowel involvement is frequently multifocal, and the most affected areas are the rectosigmoid colon, the appendix, the cecum and the distal ileum. Bowel serosa is mostly affected with transmural involvement being rare. In patients with perforation, the entire intestinal wall is replaced by endometriotic tissue. Under the effect of progesterone, the area of ectopic endometrium becomes decidualized with a progressive reduction in size leading to perforation, by weakening of the intestinal wall, especially in the third trimester. Decidualization causes a severe inflammatory response with an increased number of natural killer cells and decidual changes, which are responsible for a higher risk of perforation
Volvulus is rare but pregnancy is a known risk factor for volvulus. Enlarging uterus can lead to an increase in the length of sigmoid colon and cause a displacement of sigmoid colon by pushing the redundant or abnormally motile segment out of the pelvis, thus enhancing the risk of the rotation of extra-pelvic segment around its fixation point on the mesenteric axis.

Conclusion:

Due to limited cases in literature, clinicians need to continue to track and reflect on protocols used for managing abdominal pain in pregnancy when there is a normal CTG. Early diagnosis in cases with no signs of peritonitis, ischemia, or strangulation can be managed conservatively avoiding a laparotomy.