Case Report

Small bowel obstruction due to congenital omphalomesenteric band with concomitant appendicitis in the third trimester of pregnancy: A case report

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ABSTRACT

Acute abdomen during pregnancy remains a diagnostic challenge due to altered anatomy and physiological changes. Appendicitis is the most common non-obstetric surgical emergency in pregnancy, whereas small bowel obstruction is rare and usually attributed to post-operative adhesions. Congenital causes such as persistent omphalomesenteric duct remnants are exceptionally uncommon in adults and rarely reported during pregnancy. We report a 34-year-old primigravida at 30 weeks and 4 days' gestation presenting with progressive abdominal pain and leukocytosis. Ultrasonography demonstrated localized ileus with ascites. Emergency laparotomy revealed closed-loop obstruction due to a fibrous omphalomesenteric band with 75 cm of gangrenous distal ileum and concomitant acute appendicitis. Segmental resection with primary anastomosis and appendectomy were performed. Intraoperative fetal bradycardia necessitated emergency cesarean delivery. Both mother and neonate recovered satisfactorily. The case highlights the need for early surgical intervention and multidisciplinary coordination in managing an acute abdomen during pregnancy.

Key words: Acute abdomen, Appendicitis, Internal hernia, Omphalomesenteric band, Pregnancy, Small bowel obstruction

Acute abdominal pain complicates approximately 1 in 500–635 pregnancies [1,2]. Diagnosis is often challenging because physiological leukocytosis and displacement of abdominal organs by the gravid uterus may mask classical signs. Appendicitis remains the most common non-obstetric surgical emergency during pregnancy, accounting for nearly 25% of cases requiring surgical intervention [3]. Small bowel obstruction (SBO) during pregnancy is rare, with reported incidence ranging from 1 in 17,000 to 1 in 25,000 deliveries [4,5]. Adhesions are responsible for most cases. Congenital causes such as persistent omphalomesenteric duct remnants are distinctly uncommon and typically present in childhood [6]. Adult presentation during pregnancy is exceedingly rare.

We report a case of SBO caused by a fibrous omphalomesenteric band with concomitant appendicitis in the third trimester, necessitating bowel resection and emergency cesarean delivery.

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CASE REPORT

A 34-year-old primigravida at 30 weeks and 4 days of gestation presented with acute abdominal pain of 3 h' duration. The pain began in the epigastrium and migrated to the right iliac fossa. Three episodes of non-bilious vomiting occurred. She denied fever, bleeding per vaginum, or previous abdominal surgery. She described intermittent colicky abdominal pain since childhood that had not required treatment.

Her antenatal course was complicated by gestational diabetes mellitus and hypothyroidism. On examination, pulse rate was 110/min, and she was afebrile. Tenderness was initially localized to the right iliac fossa but became diffuse within hours. Bowel sounds were sluggish. Fetal heart sounds were present.

Leukocyte count increased from 10,400 to 23,800 cells/mm^3 within 24 h. Ultrasonography revealed dilated bowel loops in the right iliac fossa with moderate ascites; the appendix was not visualized. In view of worsening abdominal signs and rising leukocytosis, an acute surgical abdomen was suspected. After multidisciplinary discussion and high-risk

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Table 1: Summarizes selected cases

Author	Year	Etiology	Gestation	Management	Outcome
Yuansheng *et al*. [7]	2021	Transmesenteric congenital defect	3rd trimester	Emergency surgery	Favorable
Tahmasbi *et al*. [8]	2024	Omphalomesenteric fibrous band	Adult male	Band release	Favorable
Mwila *et al*. [9]	2022	Vitelline artery remnant	Adult	Resection	Favorable
Yang *et al*. [10]	2016	Congenital adhesion band	Adult	Band division	Favorable

consent, an emergency exploratory laparotomy was performed.

Approximately 1 liter of straw-colored fluid was found. Dilated, congested small bowel loops were seen. A fibrous band extending from the distal ileum toward the umbilical region had created a closed-loop internal hernia. Around 75 cm of distal ileum, located 60–70 cm proximal to the ileocecal junction, was gangrenous. The appendix appeared inflamed. The band was divided. Resection of gangrenous ileum with primary end-to-end anastomosis was performed along with appendectomy (Fig. 1). During abdominal closure, fetal bradycardia was detected, and an immediate lower-segment cesarean section was carried out. A 1.5 kg male neonate was delivered and admitted to neonatal intensive care.

The mother recovered uneventfully (Fig. 2). Oral intake was resumed gradually, and she was discharged in stable condition. The neonate required short-term respiratory support and progressed satisfactorily.

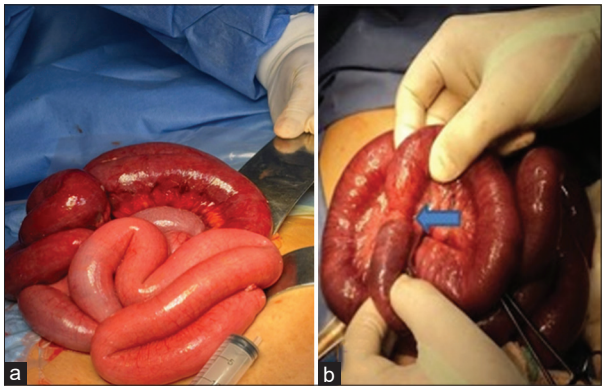

Figure 1: (a and b) Emergency exploratory laparotomy was performed

Figure 2: Follow-up of the patient

DISCUSSION

SBO in pregnancy is uncommon but associated with significant maternal and fetal morbidity when diagnosis is delayed [4,5]. Adhesions are the predominant cause; congenital bands constitute a minority of cases. The omphalomesenteric duct normally regresses by the ninth week of gestation. Persistence may lead to fibrous bands connecting the ileum to the umbilicus, predisposing to internal herniation and closed-loop obstruction [6].

Clinical diagnosis during pregnancy is difficult. Physiological leukocytosis reduces the specificity of laboratory findings, and displacement of abdominal organs may alter pain localization [1,2]. In our patient, progressive tenderness and rapidly rising leukocyte count prompted surgical intervention despite inconclusive imaging.

Few recent reports describe congenital internal hernias or bands causing SBO during pregnancy. Yuansheng et al. reported a third-trimester transmesenteric internal hernia requiring emergency surgery with a favorable maternal outcome [7]. Tahmasbi *et al*. described an omphalomesenteric duct fibrous band causing SBO in an adult patient [8]. Mwila *et al*. reported a vitelline artery remnant band in an adult female requiring bowel resection [9]. Similar adult cases of congenital adhesion bands presenting with acute obstruction have been reported in recent literature [10]. Table 1 summarizes previous cases of SBO during pregnancy [7-10].

The coexistence of appendicitis further obscured the diagnosis in the present case. Right iliac fossa tenderness and leukocytosis initially suggested appendicitis. However, intraoperative findings demonstrated gangrenous closed-loop obstruction. Dual pathology emphasizes the need for broad differential consideration in pregnant patients with evolving abdominal signs.

CONCLUSION

Prompt surgical intervention remains essential once strangulation is suspected. Continuous intraoperative fetal monitoring enabled early recognition of fetal bradycardia and timely cesarean delivery. Multidisciplinary coordination was critical for favorable maternal and neonatal outcomes.

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