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A Rare Postpartum Presentation of Appendiceal Rupture Concealed by Uterine Myoma: a case report

Une présentation rare en période postpartum d'une rupture appendiculaire masquée par un fibrome utérin : à propos d'un cas clinique

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Clinical Case

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ABSTRACT

A 31-year-old primiparous woman developed acute abdomen 12 hours post vaginal delivery. Emergency laparotomy revealed 2000 mL of pus and a necrotic myoma tamponading a ruptured appendix. Myomectomy, peritoneal lavage, and bowel exploration were performed. Postoperative wound infection was managed with antibiotics and local care. Recovery was favorable at eight weeks. This case highlights the diagnostic challenges of postpartum appendicitis, often masked by physiological changes. Early surgical intervention and multidisciplinary management are essential for optimal outcomes.

RESUME

Une femme primipare de 31 ans a développé un abdomen aigu 12 heures après un accouchement par voie basse. Une laparotomie d'urgence a révélé la présence de 2 000 ml de pus et d'un myome nécrotique tamponnant un appendice rompu. Une myomectomie, un lavage péritonéal et une exploration intestinale ont été réalisés. L'infection postopératoire de la plaie a été traitée par antibiotiques et soins locaux. La guérison a été favorable au bout de huit semaines. Ce cas met en évidence les difficultés diagnostiques de l'appendicite post-partum, souvent masquée par des changements physiologiques. Une intervention chirurgicale précoce et une prise en charge multidisciplinaire sont essentielles pour obtenir des résultats optimaux.

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Introduction

The postpartum period is a critical phase in maternal recovery, during which various physiological changes and potential complications may arise. While abdominal discomfort is common after delivery, the occurrence of acute abdomen in the immediate postpartum period is rare and often poses a significant diagnostic challenge. Acute abdomen refers to a sudden onset of severe abdominal pain that may require urgent surgical intervention. In postpartum women, its etiology can be diverse, ranging from obstetric causes such as uterine rupture or retained placental fragments, to non-obstetric conditions like bowel obstruction, appendicitis, or intra-abdominal hemorrhage (1). Even rarer conditions have been reported such as, rupture of a urachal cyst, ruptured hydatid liver cyst and ovarian vein thrombosis mimicking acute appendicitis post-partum, and presenting as an acute abdomen (2–4). Prompt recognition and management are essential to prevent maternal morbidity and mortality. However, the overlapping symptoms with normal postpartum recovery can delay diagnosis. This case report highlights an unusual presentation of acute abdomen shortly after delivery, emphasizing the importance of clinical vigilance, timely imaging, and multidisciplinary collaboration in postpartum care.

We are hereby presenting a very rare case of immediate postpartum acute abdomen secondary to a ruptured appendix, which posed diagnostic and managements dilemmas, especially as she was referred. The abdominal pain and tenderness can be easily misinterpreted as afterpains and management delayed resulting in morbidity or mortality.

Case Presentation

We report the case of a 31-year-old primiparous woman (G1P1001) referred for severe abdominal pain 12 hours after vaginal delivery induced with Misoprostol (50 µg every 6 hours for 18 hours), resulting in a healthy newborn (3500 g). On examination, she was afebrile with stable vitals but in significant distress, showing diffuse abdominal tenderness with guarding and rebound. Genitourinary findings were normal, and laboratory investigations were unremarkable. Pelvic ultrasound revealed a 3 cm posterior uterine rupture, prompting emergency laparotomy.

Intraoperatively, 2000 mL of pus was evacuated. The uterus was intact, but posteriorly a necrotic sessile myoma was found tamponading a ruptured appendix. A myomectomy was performed, and bowel loops were explored with a digestive surgeon. After thorough lavage, a passive drain was placed, yielding <30 mL of serosanguinous fluid daily from postoperative days 1 to 3, and was removed on day 4. However, on postoperative day 5, the patient developed wound suppuration on day 5; sutures were partially removed, antibiotics adjusted based on culture, and wound care initiated. At eight weeks, she was clinically stable with a well-progressing wound healing.

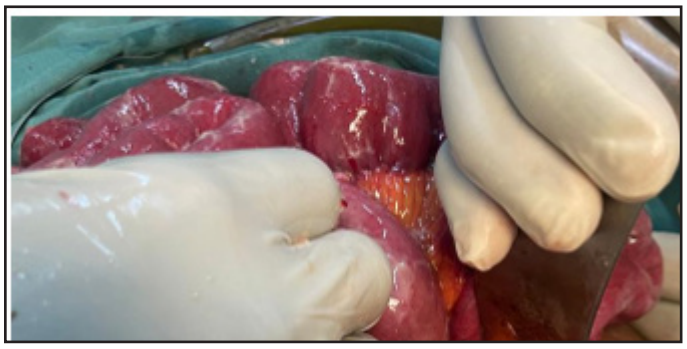

Figure 1: The image shows an intra-abdominal surgical field during a laparotomy. The upper part of the image corresponds to the cranial direction of the patient, and the lower part to the caudal. Small bowel loops are visible, gently retracted above. Purulent fluid with an orange appearance is collected in the peritoneal cavity as shown by the arrow.

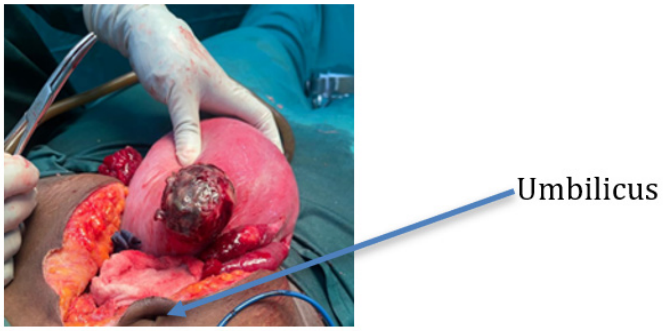

Figure 2: The image shows the intra-abdominal surgical field during laparotomy with view from patient's head downwards. Lower left aspect of image is cranial and caudal to the right, upper part. The exteriorized uterus is the large, round and pink structure with its posterior wall visible. A necrotic, sessile myoma – the dark, irregular mass is visualized on the uterine wall. No evidence of posterior uterine rupture.

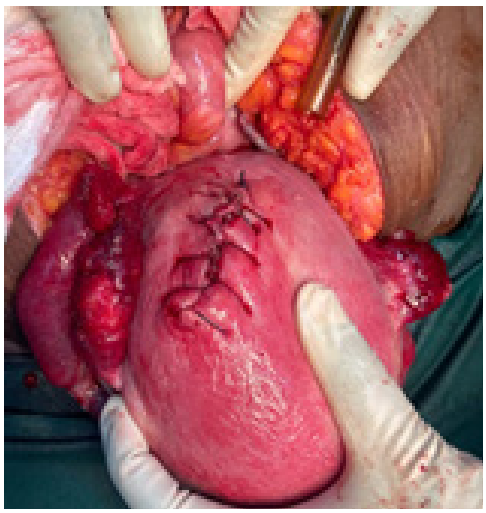

Figure 3: Bottom of the image is cranial and top of the image is caudal. The uterus is exteriorized and depicts a fresh suture line on the posterior wall following myomectomy. Suture lines – indicate closure of the myoma bed after removal of the necrotic fibroid.

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Discussion

Acute abdomen in the immediate postpartum period is a rare but critical presentation that demands prompt evaluation and intervention as exemplified by case reports/series (5,6). In this case, a ruptured appendix that complicated the post-partum course by an intra-abdominal infection illustrates the diagnostic and therapeutic challenges in postpartum surgical emergencies. Major challenges include timely referral to tertiary care and adequate training to distinguish afterpains from serious pathology.

The presence of 2000 mLs of purulent fluid and pseudomembranes indicated advanced intra-abdominal infection, likely secondary to appendiceal rupture. Appendicitis in pregnancy and postpartum is uncommon but can be masked by overlapping symptoms such as uterine involution and gastrointestinal changes (7). Furthermore, overlap between physiologic and pathologic postpartum uterine changes complicates ultrasound interpretation (8), prompting the use of CT or MRI in high-income countries. Paraclinical tests including C-reactive protein, CRP and complete blood count (CBC) for leukocytosis provide nonspecific evidence of inflammation and are rarely decisive in the acute setting, instead serving mainly for follow-up. We did not obtain these investigations preoperatively owing to financial constraints.. The necrotic sessile myoma tamponading the appendix, a distinctive finding in our case that has not previously been reported in the literature, added complexity, suggesting a mechanical contribution to delayed appendiceal perforation. The surgical approach—combining myomectomy, peritoneal lavage, and intestinal exploration—was essential to control the infection and prevent further complications. Collaboration with a digestive surgeon ensured comprehensive management of the gastrointestinal component.

Delayed diagnosis and management in such cases highlight the clinical uncertainty encountered when evaluating acute abdomen in the postpartum period, however, most patients fare well postoperatively with only few mortalities reported in the literature (2,9–11).

Postoperative wound infection is not an uncommon complication in sub-Saharan African with a relatively high frequency as reported by Yadeta et al. (12). One of the risk factors in our case was the contaminated surgery, which was managed effectively with culture-guided antibiotics and local wound care. The patient's favorable recovery at eight weeks highlights the importance of multidisciplinary care, early surgical intervention, and close postoperative monitoring.

This case underscores the need for improved diagnostic vigilance in postpartum patients, where anatomical and physiological changes may obscure classical presentations of acute appendicitis resulting in rupture. Mahajan et al. demonstrated that female sex is independently associated with a higher likelihood of missed appendicitis diagnoses in the emergency department (9). Given the diagnostic challenges unique to pregnancy—such as displacement of the appendix by the gravid uterus and physiological leukocytosis—the risk of delayed or missed diagnosis is likely amplified in the peripartum period (13).

Conclusion

Acute abdomen resulting from ruptured appendix in the postpartum period is rare but easily missed due to overlapping physiological changes. This case highlights the risk of delayed diagnosis and severe complications of acute appendicits, especially when confounding factors like a necrotic myoma are present. Timely surgical intervention and multidisciplinary care were essential for recovery. Given the increased likelihood of missed appendicitis in females, heightened clinical vigilance is crucial during the peripartum period.

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