Impact Case Reports

Original Research Paper

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Ruptured abdominal ectopic pregnancy involving the appendix: a rare case managed by laparoscopic resection and appendicectomy

Mark Siboe[1], Demetrius Mududa[2]

Correspondence: Mark Siboe, Mount Kenya University, Thika, Kenya. ORCID: 0000-0001-8825-8644 Email: msiboe@mku.ac.ke

Abstract

Introduction: Abdominal ectopic pregnancies are uncommon (<1% of ectopics); implantation on the appendix is exceptionally rare. Concomitant appendicitis can obscure diagnosis and delay treatment.

Case report: A 30-year-old woman presented with severe right iliac fossa pain and anaemia (haemoglobin 8.6 g/dL). Urine β-hCG was positive. Pelvic ultrasound suggested a right ovarian ectopic with free fluid; abdominal ultrasound reported a normal appendix. Diagnostic laparoscopy revealed haemoperitoneum, a ruptured gestational sac adherent to an inflamed appendix, and normal uterus and adnexa, with a right corpus luteum. Laparoscopic excision of the abdominal pregnancy and appendicectomy were performed. She recovered well and was discharged on day 1. Histopathology confirmed products of conception compatible with ectopic pregnancy and acute appendicitis.

Discussion: Appendiceal involvement in abdominal ectopic pregnancy is among the rarest sites described, and concurrent appendicitis heightens diagnostic complexity. Laparoscopy enables definitive diagnosis, haemostasis, and organ-sparing resection with rapid recovery. In stable patients, early laparoscopic management is safe and fertility-preserving; laparotomy may be required when placental adhesion or bleeding risk is high. Clinicians should consider the dual pathology of ectopic pregnancy and appendicitis in women of reproductive age presenting with acute abdomen.

[1]*Mount Kenya University, Thika, Kenya*

[2]*Malaica Maternity Care, Nairobi, Kenya*

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Introduction

Ectopic pregnancy and acute appendicitis are common causes of acute abdominal pain in women of reproductive age, but their co-occurrence is rare and creates diagnostic and therapeutic challenges. Ectopic pregnancy occurs in 1–2% of pregnancies; 95–98% are tubal, while abdominal implantation accounts for fewer than 1%, and appendiceal implantation is exceptionally uncommon. Since Studdiford's 1942 classification, fewer than 15 cases with appendiceal involvement have been reported. This case describes the clinical presentation, diagnostic process and surgical management of a patient with both conditions, adding to the limited literature and highlighting the diagnostic complexity and management nuances.

Case Presentation

A 30-year-old female patient presented to the accident and emergency department with severe right lower abdominal cramping pain (pain score 10/10). She had a history of an ovarian cyst, no fever, vomiting, or abnormal discharge, and reported four episodes of loose stool and bloating. She is Para 2+0, not currently on contraceptives and her last menstrual cycle was 17 days prior to her current presentation. Her vital signs were stable, with a blood pressure of 122/78 mmHg, pulse rate of 80 beats per minute, temperature of 35.5 degrees Celsius, oxygen saturation of 100%, and her body mass index was 28.9. Laboratory investigations done: Hemoglobin of 8.6 g/dL (low), CRP: 5.64 mg/L (elevated) and Urine β-hCG was positive. An abdominal ultrasound done reported normal findings with no signs

of appendicitis while the pelvic ultrasound showed an enlarged right ovary with hyperechoic ring and increased vascularity, fluid in pouch of Douglas consistent with right ovarian ectopic pregnancy.

An emergency diagnostic laparoscopy revealed hemoperitoneum, with right ovarian fossa ectopic pregnancy (figure 1) involving an enlarged and inflamed appendix and right ovarian corpus luteum cyst (figure 2-4). A ruptured gestational sac was found adherent to the appendix (figure 1). The sac was removed and laparoscopic appendicectomy performed (figure 5). The patient recovered uneventfully and was discharged on postoperative day 1 and recuperating well post-surgery. Histopathology confirmed ectopic pregnancy and acute appendicitis.

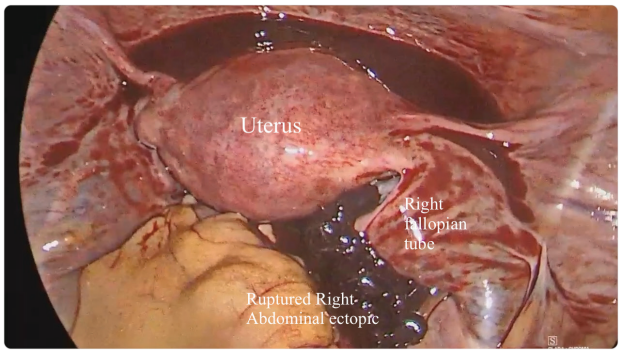

Figure 1: Ruptured abdominal ectopic

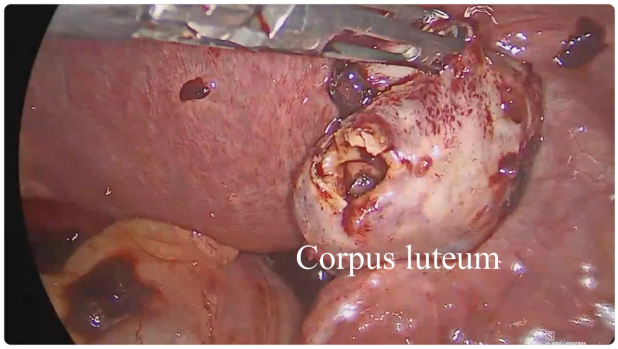

Figure 2: Right Corpus luteum

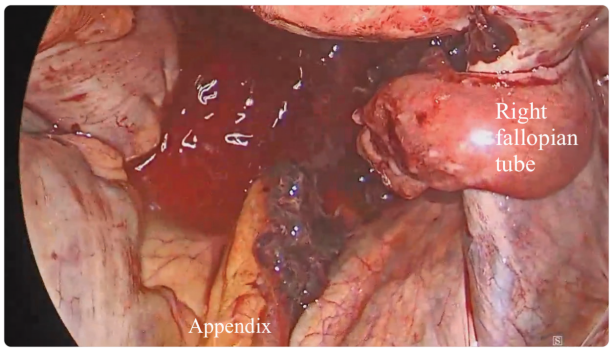

Figure 3: Appendiceal involvement in ectopic

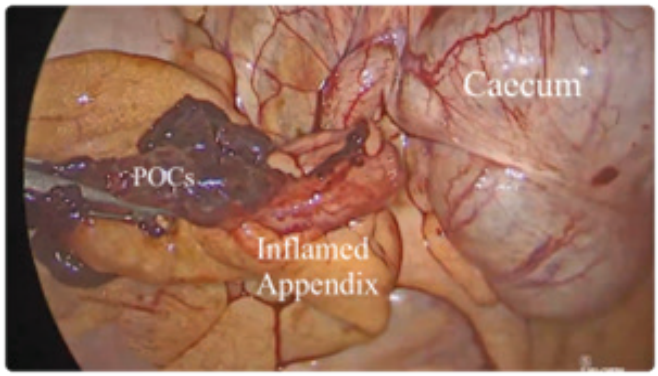

Figure 4: Appendicitis with products of conception at tip

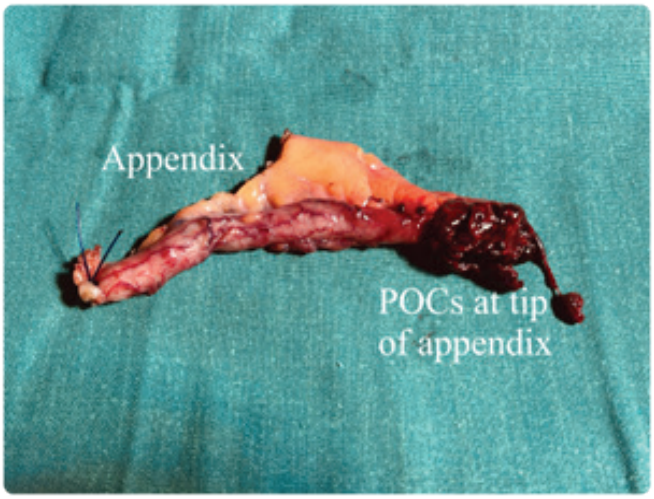

Figure 5: Acute appendicitis with products of conception at tip

Discussion

Abdominal pregnancies are rare, occurring in 1 per 10,000 live births. The documented sites of implantation include the omentum, bowel, liver, spleen, and appendix. Appendiceal involvement has been documented in fewer than 15 published cases worldwide even rarer is a concomitant acute appendicitis. In our patient, the implantation appeared primary, as both tubes and ovaries were normal.

The first case of primary abdominal pregnancy was described by Studdiford in 1942[1]. García-Espinosa et al. reported a case of a 33-week abdominal pregnancy with placental attachment to multiple organs including the appendix[2]. Krosch et al. documented coincidental appendicitis in a ruptured tubal ectopic, highlighting diagnostic overlap[3]. Similarly, George et al. reported appendiceal implantation found after rupture[4]. These reports emphasize the variable presentation and diagnostic challenges[5].

Our case is distinct due to its early presentation, hemodynamic stability, and successful laparoscopic management. Laparoscopy allows accurate visualization, controlled resection, and shorter recovery. In advanced abdominal pregnancies, laparotomy may be required due to dense placental adhesion or hemorrhage risk. This case illustrates the diagnostic complexity of acute abdomen in women of reproductive age. The coexistence of ectopic pregnancy and appendicitis, though rare, necessitates a high index of suspicion and prompt surgical intervention. Laparoscopy proved effective for both diagnosis and treatment.

Appendiceal involvement in abdominal pregnancy with concurrent acute appendicitis is extremely rare. A high index of suspicion, multidisciplinary teamwork, and early laparoscopic intervention are key to reducing morbidity. Concurrent ectopic pregnancy and appendicitis should be considered in differential diagnosis of acute abdomen. Early imaging and surgical management are crucial for favourable outcomes.

Generative Artificial Intelligence Transparency (GAIT) Statement[6]: ChatGPT Plus was used in October 2025 to check and edit the case report, supplement literature review and edit small sections of the manuscript text for clarity. We the authors retain final responsibility for the work.

Conflicts of Interest: None declared.

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Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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