



WESTERN NIGERIA JOURNAL OF MEDICAL SCIENCES (WNIJMS)

AN UNUSUAL POSTPARTUM ECTOPIC PREGNANCY: A CASE REPORT

AN UNUSUAL POSTPARTUM ECTOPIC PREGNANCY: A CASE REPORT

Ajadi TA, Soneye MA, Okafor UK

Department of Radiology, Federal Medical Centre, Abeokuta, Nigeria.

Correspondences to: Ajadi TA, Department of Radiology, Federal Medical Centre, Abeokuta, Nigeria.

E-mail: tqramat@gmail.com; ajadi.ta@fmcabeokuta.org

ABSTRACT

Introduction: Ectopic pregnancy (EP) is a life-threatening condition and a leading cause of maternal morbidity and mortality, particularly in the first trimester. While most cases occur in the fallopian tube, postpartum EP is rare and often difficult to diagnose due to its atypical presentation. Early detection is critical to prevent complications such as rupture and haemorrhage, especially in resource-limited settings where diagnostic tools are limited.

Case Report: We report a case of a 32-year-old multiparous woman who presented with acute lower abdominal pain and no vaginal bleeding, five months postpartum following a Caesarean section. She was breastfeeding and had no prior history of EP or other known risk factors. The clinical examination revealed lower abdominal tenderness, along with stable vital signs. An abdominopelvic ultrasound showed a complex adnexal mass with no intrauterine gestation, and serum β -hCG levels were elevated at 3074 IU/L. An emergency exploratory laparotomy confirmed a ruptured left fimbrial ectopic pregnancy with 550 mL of hemoperitoneum.

Conclusion: This case highlights the need for high clinical suspicion in postpartum patients presenting with unexplained abdominal pain. Early diagnosis and prompt intervention are crucial to reducing maternal morbidity and mortality, particularly in resource-limited settings.

Keywords: Post partum; ectopic pregnancy; abdominal pain.

INTRODUCTION

Ectopic pregnancy (EP) is the term applied to describe the implantation of a fertilized ovum outside of the normal uterine cavity, most commonly in one or rarely both fallopian tubes. Implantation can also be found in the cervix, ovary, or abdominal cavity.^{1,2} It is a significant global health concern, with a higher burden in developing countries with limited access to healthcare. EP is one of the leading causes of maternal morbidity and mortality in the first trimester and ranks as the second most common cause of maternal death in developing countries, following complications from unsafe abortions.³

The incidence of EP in Nigeria is not well-documented, but estimates range between 1 in 20 and 1 in 50 pregnancies, with reported variations across different regions. The prevalence of EP in Nigeria varies from 0.3% to 2.7% of pregnancies and accounts for 1.4% to 8.3% of gynecological admissions.⁴⁻⁷ The incidence of EP is rising globally due to factors such as increased cases of salpingitis, untreated pelvic inflammatory disease, use of intrauterine contraceptive devices, tubal surgeries, and improved diagnostic techniques.^{3,8-10}

Common symptoms of EP include amenorrhea for up to seven weeks, lower abdominal pain, vaginal bleeding, nausea, dizziness, and in severe cases, loss of consciousness. Most studies report that abdominal pain, amenorrhea, and vaginal bleeding are the most common presenting symptoms.⁴ However, in resource-limited

settings, delayed diagnosis often results in a high percentage of ruptured ectopic pregnancies. Atypical presentations, such as cases with massive hemoperitoneum without classical peritoneal signs, have also been reported, including rare instances of omental ectopic rupture.¹¹

Ultrasound imaging, particularly transvaginal ultrasound, is the primary diagnostic tool for EP, often combined with laboratory testing, such as beta-human chorionic gonadotropin (β -hCG) levels, to improve diagnostic accuracy. Prompt diagnosis and treatment are crucial to preventing severe complications such as tubal rupture, haemorrhage, and maternal death¹.

This case report highlights an unusual presentation of ectopic pregnancy in a postpartum patient, emphasizing the challenges of diagnosis and management in low-resource settings where ultrasound remains one of the most accessible diagnostic tools.

CASE REPORT

A 32-year-old female, Para 2, presented at the gynecological emergency ward with severe, sharp lower abdominal pain of two hours' duration. She had two episodes of mucoid, watery stool but with no vaginal bleeding. The patient had delivered a baby five months prior via cesarean section and was still breastfeeding. She had no history of smoking, alcohol use, or contraceptive use.

Examination revealed a well-hydrated patient with stable vital signs: pulse rate of 85 bpm, blood pressure of 120/80 mmHg, and oxygen saturation (SpO_2) of 98%. Pelvic examination revealed lower abdominal tenderness, but other systemic findings were within normal limits. Given the presentation, an acute abdomen of uncertain cause was suspected, necessitating further radiological and laboratory investigations.

An abdominopelvic ultrasound, including a transvaginal component, showed normal abdominal organs, a homogeneous uterus with an endometrial plate measuring 8.9 mm, and no intrauterine gestational sac (figure 1). The uterus measured 6.5 cm \times 4.1 cm. The right ovary was normal, but a moderate loculated fluid collection was noted adjacent to it. A complex heterogeneous lesion in the left adnexa, measuring 8.0 cm \times 5.2 cm, was compressing the left ovary. A thin-walled cystic lesion (8.6 cm \times 7.6 mm) was identified within this mass, exhibiting posterior acoustic enhancement. Approximately 13 mL of fluid was noted as adjacent to the lesion. Differential diagnoses included ectopic pregnancy, tubo-ovarian complex, and ovarian mass.

Serum β -hCG was elevated at 3074 IU/L, making ectopic gestation the most likely diagnosis. An emergency exploratory laparotomy revealed a ruptured left fimbriae ectopic pregnancy with 550 mL of intraperitoneal blood. A left total salpingectomy was done.



Fig 1. Transvaginal B-mode ultrasound showing an irregular-edged cystic adnexal lesion with the adjacent heterogeneous lesion, which was found to be a ruptured ectopic gestation on surgery

DISCUSSION

EP is a significant early pregnancy complication associated with high maternal morbidity and mortality. It accounts for approximately 1.3% to 2.4% of all pregnancies and most commonly implants in the fallopian tube, specifically in the ampulla (70%), isthmus (12%), fimbria (11.1%), and interstitium (2.4%).^{1,2,8,12} The classic clinical triad of lower abdominal pain, vaginal bleeding, and adnexal mass is seen in about 45% of cases, but symptoms can be nonspecific, leading to missed or delayed diagnoses.¹³ A detailed clinical history and thorough examination are essential for early detection.

Diagnostic Approach

Ultrasound remains the cornerstone of EP diagnosis, with high-resolution transvaginal ultrasound being particularly effective. When ultrasound findings are inconclusive, combining imaging with serum β -hCG measurements significantly improves diagnostic accuracy.^{13,14}

Imaging plays a crucial role in diagnosing EP. Artificial intelligence (AI) advances continue improving imaging techniques' accuracy. However, computed tomography (CT) has limited diagnostic value for EP due to its non-specific findings and concerns about ionizing radiation exposure. Magnetic resonance imaging (MRI) offers superior soft tissue resolution but is often impractical in low-resource settings due to cost, limited availability, and the instability of patients presenting with acute EP.^{15,16}

EP has distinct ultrasound features, and the absence of an intrauterine gestation in a β -hCG-positive patient necessitates thorough transvaginal ultrasound evaluation. However, other gynecological conditions—such as early intrauterine pregnancy, spontaneous abortion, and even ectopic pregnancy—can present an empty uterus, making differential diagnosis essential.¹⁷

This case is unique because the patient was still on exclusive breastfeeding before the presenting symptoms and eventual diagnosis of ectopic pregnancy. EP is commonly associated with risk factors such as previous ectopic pregnancy, tubal surgery, infertility, smoking, assisted reproductive technologies (ARTs), multiple sexual partners, advanced maternal age, and in utero exposure to diethylstilbestrol (DES).^{2,12,18} None of these were present in this case. Additionally, breastfeeding did not provide effective contraceptive protection, highlighting the need for awareness of contraception postpartum. The identifiable risk factor for EP in this case is a previous caesarean section. In the work of Olamijulo et al,¹⁹ a review of nine year trends of ectopic gestation in Lagos , South-Western Nigeria, pelvic surgery was identified as the second predisposing factor after infections. Another scholarly work by Ofayra Farooq et al.²⁰ in their comparative observational study over a period of one and a half year in an Indian hospital, found out that the odd ratio of a woman with previous Caesarian section is 2.59(95% confidence interval= 1.81-3.75), which translated as having 2.59 risk of ectopic pregnancy compared with those with normal vaginal delivery.

Management Approach

Tubal ectopic pregnancies often present early with symptoms due to weak implantation of the blastocyst in the fallopian tube's submucosal layer. This instability increases the risk of tubal rupture, leading to acute clinical manifestations.^{18,21}

The management of EP depends on factors such as the patient's hemodynamic stability, β -hCG levels, gestational sac size, and reproductive goals. Hemodynamically stable patients may be treated medically with methotrexate, while unstable patients require urgent surgical intervention via laparoscopy or laparotomy.^{2,21}

CONCLUSION

This case underscores the critical need for early diagnosis and timely management of ectopic pregnancy, emphasizing the importance of maintaining a high index of suspicion in patients with abdominal pain and a history of pelvic surgery, even in postpartum women. EP remains a significant first-trimester complication in both developed and developing countries. Advances in diagnostic technology have improved early detection despite the rising incidence of the condition. Continued efforts in prompt diagnosis and appropriate treatment will help reduce morbidity and mortality rates.

Future research should focus on enhancing diagnostic precision and developing more effective treatment approaches, particularly in resource-limited settings.

REFERENCES

1. Singh S, Miskeen E, Alqarni D, Alsaluli R, Alqawba A, Alaklabi M, et al. Ruptured ectopic pregnancy with unusual presentation: a case report and review of the literature. *Onkol Radioter.* 2024; 18(1).
2. Panelli DM, Phillips CH, Brady PC. Incidence, diagnosis and management of tubal and nontubal ectopic pregnancies: a review. *Fertil Res Pract.* 2015; 1(1):15.
3. Uche-Nwidagu BN, Obi VO, Nwafor JI, Nweke AN, Oliobi CW, Onyema MC, et al. Epidemiology and Management of Ectopic Pregnancy in Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Southeast, Nigeria. *Open J Obstet Gynecol.* 2019; 09(08):1202–1211.
4. Uhunmwangho BO, Okoror CE, Idemudia O. Ectopic pregnancy at a teaching hospital, Nigeria: an analysis of presentation and risk factors. *Menoufia Med J.* 2020; 33(2):415–418.
5. Olamijulo JA, Okusanya BO, Adenekan MA, Ugwu AO, Olorunfemi G, Okojie O. Ectopic pregnancy at the Lagos University Teaching Hospital, Lagos, South-Western Nigeria: Temporal trends, clinical presentation and management outcomes from 2005 to 2014. *Niger Postgrad Med J.* 2020; 27(3):177–183.
6. Nnamani ES, Chama CC, Aminu MB, Abubakar SM. Ectopic pregnancy at a tertiary hospital in North Eastern Nigeria: a 2 year review of the clinical presentations and management. *Highl Med Res J.* 2022; 22(1):1–5.
7. Bulus J, Shuai'bu ARJ, Salihu D, Audu SD, Golit W, Matawal B, et al. The prevalence of ectopic pregnancy in Jos, North Central Nigeria: a reproductive health challenge. *Niger J Med.* 2018; 27(4):326–332.
8. Etuknwa BT, Azu OO, Peter AI, Ekandem GJ, Olaifa K, Aquaisua AN, et al. Ectopic pregnancy: A Nigerian urban experience. *Korean J Obstet Gynecol.* 2012; 55(5):309–314.
9. Eke EO, Ekeleme NC, Ezirim EO, Onwuka CJ, Eke KO. Ectopic Pregnancy: a 10-year review of cases in a tertiary health institution in Umuahia, South East, Nigeria. *Eur J Med Health Sci.* 2022; 4(4):54–59.
10. Oyedeji OE, Aworinde OO, Muritala WO, Oyedeji YO, Adeniji AO. Risk factors and outcomes of ectopic pregnancies at Lautech Teaching Hospital, Ogbomoso, Nigeria: five years review. *KIU J, Health Sci.* 2024; 4(1):68-79.
11. Van Antwerp E, Schick S, Cutlip H, Turner J, Hott J. Massive hemoperitoneum without peritoneal signs: An unusual presentation of omental ectopic rupture. A case report. *Case Rep Womens Health.* 2021; 31:e00327.
12. Njingu AE, Cumber SN, Geh MM, Edgar MML, Nkfusai CN, Ngunde JP, et al. Incidence, risk factors, clinical presentation and treatment of ectopic pregnancy in the Limbe and Buea Regional Hospitals in Cameroon. *PAMJ Clin Med.* 2020; 2(95).
13. Shivhare S, Vatsa R, Tiwari A. Blood clot, the innocent culprit of pain in hypochondrium: an unusual presentation of ectopic pregnancy. *BMJ Case Rep.* 2021; 14(3):e239475.
14. Keche AS, Poovaragavan V, Sravan JS, Keche AS. Sudden Death Due to Rupture of Ectopic Pregnancy in a Young Lactating Mother. *Cureus.* 2023; 15(1).
15. Zhang S, Zhu Z, Yu Z, Sun H, Sun Y, Huang H, et al. Effectiveness of AI for

Enhancing Computed Tomography Image Quality and Radiation Protection in Radiology: Systematic Review and Meta-Analysis. *J Med Internet Res.* 2025; 27:e66622.

16. Kao LY, Scheinfeld MH, Chernyak V, Rozenblit AM, Oh S, Dym RJ. Beyond Ultrasound: CT and MRI of Ectopic Pregnancy. *Am J Roentgenol.* 2014. 202(4):904–11. Available from: <https://www.ajronline.org/doi/10.2214/AJR.13.10644>

17. Baker M. dela Cruz J. Ectopic pregnancy, ultrasound. *StatPearls.* 2023; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK482192/>

18. Bursać D, Zadro M, Haramina S, Bošnjak DC, Tučkar N, Kuna K. Unusual presentation of late-stage ectopic tubal pregnancy (19 weeks' gestation): Case report and literature review. *Eur J Obstet Gynecol Reprod Biol.* 2024; 295:150–152.

19. Olamijulo JA, Okusanya BO, Adenekan MA, Ugwu AO, Olorunfemi G, Okojie O. Ectopic pregnancy at the Lagos University Teaching Hospital, Lagos, South-Western Nigeria: Temporal trends, clinical presentation and management outcomes from 2005 to 2014. *Niger Postgrad Med J.* 2020; 27(3):177–83. Available from: https://journals.lww.com/npmj/fulltext/2020/27030/ectopic_pregnancy_at_the_lagos_university_teaching.5.aspx

20. Farooq O, Choudhary N, Ahmad Dar F. Association Between Previous Cesarean Section and Subsequent Ectopic Pregnancy: A Comparative Observational Study. *Int J Res Rev.* 2023; 10(5):490–496.

21. Thimmappa SS, Mamatha S. Ectopic Enigma-A Case Series of Unusual Presentations of Tubal Ectopic Pregnancy. *J Clin Diagn Res.* 2022; 16(9):1-3.