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Case Report

Ruptured ectopic pregnancy in a patient on levonorgestrel subdermal implant in-situ: a case report

Weyinmi E. Kubeyinje[1]*, Reuben O. Iweka[1], Uwadiae Anthony[2]

[1]Department of Obstetrics and Gynaecology, University of Benin Teaching Hospital, Benin City, Nigeria
[2]Department of Anaesthesiology, University of Benin Teaching Hospital, Benin City, Nigeria

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***Correspondence:**
Dr. Weyinmi E. Kubeyinje,
E-mail: kbjthethird@yahoo.com

ABSTRACT

Ectopic pregnancy is a major cause of first-trimester maternal morbidity and mortality, particularly in low-resource settings where delayed diagnosis often leads to tubal rupture. Although levonorgestrel implants are highly effective, pregnancies that occur in users carry a higher likelihood of ectopic implantation. A 28-year-old Gravida 3 Para 3 presented with severe lower abdominal pain, dizziness, abnormal vaginal bleeding, and eight weeks of amenorrhoea while remaining hemodynamically compensated. A positive pregnancy test, PCV of 26%, and ultrasound showing a right adnexal mass with free fluid confirmed ectopic pregnancy despite recent Jadelle implant reinsertion. Emergency laparotomy revealed 1.5 litres of haemoperitoneum and a ruptured right ampullary ectopic pregnancy, leading to right salpingectomy and uneventful recovery after transfusion. This case highlights how early vital signs may remain deceptively stable despite massive haemoperitoneum, underscoring the need for clinical vigilance. Routine pregnancy testing in all reproductive-age women with abdominal pain is essential, regardless of contraceptive use or recent implant replacement. Ultrasound findings and low PCV provided crucial diagnostic support, while timely surgery and resuscitation were lifesaving. Ectopic pregnancy should always be considered in reproductive-age women presenting with abdominal pain. Early diagnosis and prompt surgical intervention are critical to reducing preventable maternal morbidity and mortality.

Keywords: Ectopic pregnancy, Ruptured ampullary pregnancy, Levonorgestrel implant failure, Emergency laparotomy, Maternal morbidity

INTRODUCTION

Ectopic pregnancy remains a major cause of maternal morbidity and mortality globally, especially in low-resource settings where diagnostic delays often lead to tubal rupture before treatment is initiated. It accounts for approximately 1–2% of all pregnancies and is a leading cause of first-trimester maternal death.[1,2] Its diagnosis can be challenging because early clinical features mimic other causes of acute abdomen, and many women remain hemodynamically compensated despite significant haemoperitoneum.[3] In addition, long-acting reversible contraceptives such as levonorgestrel implants have extremely low failure rates, but when pregnancy does occur, there is a significantly increased likelihood of an ectopic location.[4] This case report presents a 28-year-old multiparous woman with a ruptured right ampullary ectopic pregnancy who arrived with severe abdominal pain, hemodynamic compensation despite substantial internal bleeding, and a recent history of implant reinsertion. It highlights essential clinical lessons regarding early recognition, the importance of pregnancy testing regardless of contraceptive use, and the critical need for timely surgical intervention in emergency gynaecology settings.[5,6]

CASE REPORT

A 28-year-old woman, a fashion designer and G3P3 with three living children, presented with a two-day history of severe lower abdominal pain. The pain began suddenly, was sharp and cramping, radiated across the abdomen, including the right side, worsened by getting up, standing, or lying down, and had no relieving factors. It was severe enough to disturb sleep and lasted several minutes at a time. Associated symptoms included generalized body weakness, dizziness, difficulty walking, uncoordinated bending, easy fatigability, tiredness on exertion, and fainting spells. She denied chest pain, convulsions, cough, fever, constipation, vomiting, diarrhoea, foul vaginal discharge, or urinary symptoms. She reported about eight weeks of amenorrhoea and abnormal vaginal bleeding.

Her contraceptive history revealed five years of Jadelle implant use, first inserted on 29/12/2020. It was removed on 23/10/25 during a consultation for abdominal pain, and a new implant was inserted the same day, expiring 23/10/2030. She believed pregnancy was unlikely due to the implant, hence a pregnancy test was not done.

On examination, she was fully conscious but in painful distress. BP was 90/60 mmHg and PR 110/min. Chest examination was normal. Her abdomen showed right iliac fossa tenderness with guarding.

Investigations revealed a PCV of 26%. The pregnancy test was positive. Ultrasound showed a right adnexal mass arising from the right ovary with free intra-abdominal fluid suggestive of haemoperitoneum.

Figure 1: Image showing ectopic pregnancy with haemoperitoneum (blood clots).

Management included resuscitation with intravenous normal saline 1litre stat, blood preparation, NPO status, and counselling for surgery. She had an emergency exploratory laparotomy revealed approximately 1.5 litres of haemoperitoneum consisting of clotted blood. A ruptured right ampullary ectopic pregnancy was found with active bleeding (Figure 1). The right ovary, left tube, and ovary were grossly normal. A right total salpingectomy was done. She received 3 units of blood and tolerated the procedure well.

On postoperative day one, she remained stable with improving abdominal pain. She continued on IV 5% Dextrose, Normal Saline, suppository Diclofenac 100 mg twice daily and IV antibiotics. Graded oral sips were commenced a day post-op op and she was monitored closely. She mobilised gradually, and her recovery progressed without complications. Her post op PCV on the 2nd day post op was 31%. She was discharged home on the 4th day post-op in good condition.

DISCUSSION

This case highlights several important considerations in the diagnosis and management of ruptured ectopic pregnancy. First, the patient exhibited classical symptoms severe abdominal pain, dizziness, amenorrhoea, and abnormal vaginal bleeding which align with standard clinical descriptions of ectopic pregnancy presentations.[7] Despite this, her vital signs were within normal limits on arrival, illustrating a well-documented phenomenon where young women remain hemodynamically stable until late in the course of intra-abdominal bleeding due to physiological compensation.[8] This further reinforces the principle that clinicians must rely on the overall clinical pattern rather than vital signs alone when assessing reproductive-age women with abdominal pain.

The low PCV of 26% correlated with the ultrasound findings of haemoperitoneum and provided objective evidence of ongoing internal bleeding. Ultrasonography remains an invaluable tool in diagnosing ectopic pregnancy in resource-limited settings where transvaginal scanning and serial β-HCG testing may be unavailable.[9] The presence of free fluid with a right adnexal mass has been strongly associated with tubal rupture in multiple studies.[10]

Her contraceptive history is significant. Although Jadelle has a failure rate of less than 1%, evidence suggests that when pregnancy does occur in users of progestin-only implants, the likelihood of an ectopic implantation is markedly higher than among the general population.[4-11] The implant reinsertion shortly before symptom onset may have falsely reassured both patient and clinicians, delaying suspicion of pregnancy. This underscores the recommendation that all reproductive-age women with abdominal pain should undergo pregnancy testing regardless of contraceptive method, as advised by major guidelines including ACOG and WHO.[1,2]

Emergency laparotomy was the appropriate intervention given her haemoperitoneum and symptomatic deterioration. While laparoscopy is preferred in well-resourced settings, laparotomy remains the treatment of choice for ruptured ectopic pregnancy or

hemodynamically unstable patients in low-resource environments.[12] The operative findings of 1.5 litres of haemoperitoneum emphasise how rapidly fatal ectopic pregnancy can become without timely intervention. Her uneventful postoperative recovery reflects the benefits of prompt surgery, blood transfusion, adequate resuscitation, analgesia, and vigilant monitoring.

This case also highlights systemic issues prevalent in many low-resource settings, including delayed care-seeking, misconceptions regarding pregnancy risk during contraceptive use, and late recognition of early pregnancy complications. Improving community awareness, strengthening emergency referral pathways, and ensuring regular access to ultrasound and blood transfusion services are essential strategies to reduce ectopic pregnancy-related maternal mortality.

CONCLUSION

This case highlights the need for high clinical suspicion of ectopic pregnancy in reproductive-age women with abdominal pain, even when contraceptives are in use. Her symptoms, ultrasound findings, low PCV, and positive pregnancy test enabled timely diagnosis and urgent surgical intervention. It reinforces the importance of early evaluation, patient awareness about pregnancy risk with implants, and strong emergency surgical capacity in low-resource settings.

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