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CASE REPORT

A rare case of ruptured ovarian ectopic pregnancy in a rural setup

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Abstract

Ovarian ectopic pregnancy is a rare and life-threatening condition, accounting for 0.5% to 3% of all ectopic pregnancies. Due to its nonspecific presentation and diagnostic challenges, early recognition is often delayed, leading to increased morbidity. This is a case of a 37-year-old female presenting with lower abdominal pain and vaginal bleeding. Clinical examination and transabdominal ultrasound suggested a ruptured ectopic pregnancy. Emergency laparotomy confirmed ruptured ovarian ectopic pregnancy, necessitating a left oophorectomy with salpingectomy. The patient had an uneventful recovery. This case underscores the importance of clinical acumen in diagnosing ovarian ectopic pregnancy in resource-limited settings and highlights the critical role of early resuscitation and surgical intervention in reducing mortality and morbidity.

Keywords: Ectopic pregnancy; Ovarian ectopic; Rare ectopic

INTRODUCTION

Ectopic pregnancy is a life-threatening condition that occurs when a fertilized egg implants outside the uterine cavity, with the fallopian tubes being the most common site. The Ovarian ectopic pregnancy (OEP) is a rare form. It accounts for 0.5% to 3% of all ectopic pregnancies and presents unique diagnostic and management challenges.[1] Due to its rarity and nonspecific clinical presentation, early diagnosis is often difficult, which leads to increased morbidity.[2]

Patients with ovarian ectopic pregnancies typically present with lower abdominal pain, vaginal bleeding, and signs of hemodynamic instability if a rupture occurs; however, the lack of specific sonographic markers makes it particularly challenging to differentiate from corpus luteal cyst rupture or tubal ectopic pregnancy in emergency settings.[3] While advancements in transvaginal ultrasound have improved early detection, cases diagnosed in resource-limited settings still encounter significant barriers to timely management.[4]

Management options vary based on the patient's hemodynamic status. In most cases, surgical intervention is the preferred management. A resection involving salpingectomy with or without oophorectomy may be necessary to control hemorrhage.[5] In select instances, conservative management with methotrexate has been explored; however, its effectiveness remains debated due to the high vascularization of ovarian tissue.[6]

This case report describes a rare instance of ovarian ectopic pregnancy encountered in a rural setup in Nepal. Through this case, we aim to contribute to the growing body of literature on non-tubal ectopic pregnancies, particularly in regions where limited access to advanced diagnostic modalities continues to impact patient outcomes.

CASE REPORT

A 37-year-old female G3P2L2A0 presented to the Emergency Department (ED) with complaints of vaginal bleeding and lower abdominal pain for one day. Pain was severe, cramping type, radiating to the left groin area, and was increasing in intensity since morning with associated feeling of nausea. Per vaginal bleeding was initially scanty, followed by the passage of clots. She reported around 600ml of PV blood loss.

There was no history of fever, no bleeding from other orifices, no rashes, no vomiting, and no history of allergy to drugs or food. Her bowel and bladder habits were normal. She recalled being treated for pelvic inflammatory disease a few months back. She had missed her menses for two months and was not using contraceptives. No history of surgery in the past. The previous two pregnancies were normal vaginal deliveries.

On examination, she was anxious but oriented to time, place, and person. Her heart rate was 122 bpm(beats per minute), RR(respiratory rate) 17 per minute, BP(blood pressure) was 90/80 mmHg, SPO2(oxygen saturation) at room air was 98%, temperature 98.9°F, and capillary refill time(CRT) was <3seconds. Pallor was present, but cyanosis, lymphadenopathy, and edema were absent.

Her abdomen was soft, with tenderness over the suprapubic and left inguinal region during deep palpation. Rebound tenderness was absent. On per speculum examination, the cervical os was closed. There was mild bleeding from the cervical os; no erosions, protruding mass, or other lesions were noted around the cervix. Per vaginal examination and bimanual examination revealed bilateral adnexal tenderness, and a 2x2 cm mass was palpable near the left adnexa and uterus of 8-12 weeks in size.

Ectopic pregnancy was suspected, and resuscitation started with bolus intravenous Ringer's Lactate at 20 ml/kg. A Foley catheter was inserted to assess urine output. Investigations, including complete blood count, blood grouping, and cross-matching of 2 pints of whole blood, renal profile, liver profile, random blood sugar, serology panel, prothrombin time, international normalized ratio, electrocardiography, urine for pregnancy test, and routine examinations, were sent. The B-hCG level was not sent due to unavailability.

The ultrasound showed a heterogeneous mass of 3x2 cm located in the left adnexa with a mild hypoechoic collection around it and an empty uterus. Color Doppler of the mass showed increased flow peripherally. Features of the placental tissue and heartbeat could not be visualized. The right ovary and fallopian tube were normal. A fluid collection in the pouch of Douglas, measuring 3 x 3 x 3 cm, was noted.

Table 1. Laboratory values of corresponding tests

Test	Results
Total Leukocyte Count (TLC)	14000 cells/microliter
Neutrophils	0.8
Lymphocytes	0.15
Monocytes	0.05
Hemoglobin (Hb)	9 gm/dl
Renal Function Test (RFT)	
Serum Creatinine	1.2 mg/dl
Sodium (Na)	132 mg/dl
Potassium (K)	3.5 mg/dl
Urine Protein	Nil
Urine Glucose	Nil
Liver Function Test (LFT)	
Aspartate Aminotransferase (AST)	50 U/L
Alanine Aminotransferase (ALT)	55 U/L
Total Bilirubin	1.5 mg/dl
Urine Pregnancy Test	Positive
Blood Group	A +ve
HIV/HCV/HBsAg	Non Reactive

A diagnosis of Ruptured ectopic pregnancy with shock was made. Patient was kept NPO, resuscitative procedure was continued, and family members were counseled for operative management. She received 4 pints of RL before shifting to the operating theatre.

An emergency laparotomy was done. About 650ml of haemoperitoneum was drained. The left ovary was identified as containing a 3 x 2 cm mass with a near-apical rupture. The right salpinx and ovary were normal. However, as the mass was found to be oozing out from the apex, a left

oophorectomy with salpingectomy was done. The sample was then sent for histopathological analysis at another center. The intraoperative findings are shown in Figure 1.

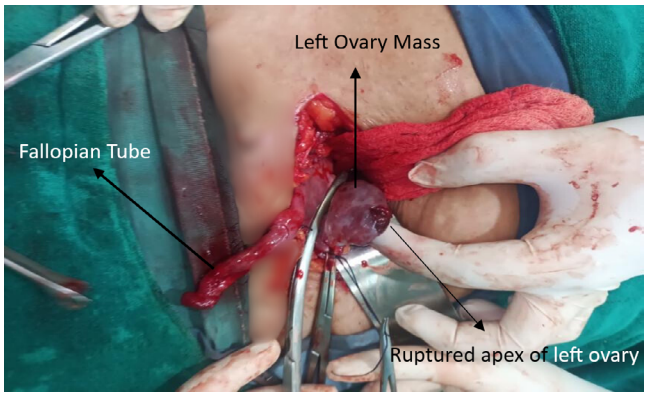

Figure 1. Left ovary, together with an ovarian mass, is seen, with rupture on the apical side. The left salpinx is seen as a tubular structure separated from the ovary in the picture.

The patient received 2 pints of RL (Ringer's Lactate) and 1 pint of DNS (Dextrose and sodium chloride) during the operation. Her urine output measured at the end of the operation was 400 ml.

Her condition improved over the next 12 hours and was transitioned from NPO to a liquid diet. Per-vaginal bleeding had subsided. Vitals were stable, with a BP of 110/85 mmHg measured in her left arm, a HR of 71 bpm, and an SPO2 on room air of 99%. Repeat hemoglobin the next morning was stable at 8.6 gm/dl. The patient was discharged on the third post-op day, with follow-up arranged for one week after the histopathological report. The patient opted for follow-up in the nearby health center and was lost to follow-up.

DISCUSSION

Diagnosis of ectopic pregnancy relies on a combination of clinical findings, biochemical testing, and imaging. Serum β-hCG measurement and transvaginal ultrasonography (TVS) remain the gold-standard diagnostic tools, with TVS being more sensitive.[7] In ovarian ectopic pregnancy, the Spielberg criteria (intact ipsilateral tube; gestational sac located within the ovary; ovary connected to the uterus by the ovarian ligament; histopathologic confirmation) provide diagnostic confirmation.[8]

In our case, serum β-hCG measurement could not be performed because the laboratory was not equipped. The patient arrived in a hemodynamically unstable condition with features of hypovolaemic shock and ultrasonographic evidence of haemoperitoneum, suggesting a ruptured ectopic pregnancy. In such emergency scenarios, the priority is immediate resuscitation and surgical intervention rather than delaying treatment for confirmatory biochemical tests.[9] While β-hCG testing and TVS are standard diagnostic tools in stable patients, in cases of suspected ruptured ectopic pregnancy with hemodynamic compromise, clinical judgement combined with ultrasound findings is sufficient to proceed with life-saving surgery.[10]

A urine pregnancy test (UPT) came positive. Combined with classic symptoms (abdominal pain and vaginal bleeding) and ultrasound findings of free intraperitoneal fluid, this justified urgent operative management.[11]

Ovarian ectopic pregnancy was identified intraoperatively. Management of ovarian ectopic pregnancy can be expectant, medical, or surgical, depending on haemodynamic stability, fertility desires, and available resources. However, expectant management is rarely feasible.[12] Surgical options include laparotomy or laparoscopy with salpingostomy, salpingectomy, or oophorectomy. Studies indicate that fertility outcomes are not significantly different when the contralateral adnexa are healthy, but when pelvic disease or abnormal adnexal findings exist, conservative surgery is preferred where possible.[13]

A comparative study reported that ovarian ectopic pregnancies are more likely to present with abdominal pain without vaginal bleeding. That ultrasound often reveals an embryo with cardiac activity and haemoperitoneum.[14] In contrast, our patient presented with both abdominal pain and vaginal bleeding, and no embryo or cardiac activity was detected on ultrasound.

Given the patient's completed family status, healthy contralateral ovary and fallopian tube, and intraoperative findings of active bleeding from the left ovary, a left salpingectomy with oophorectomy was performed. Early resuscitation comprising fluid therapy, blood transfusion, and prompt surgical exploration has been shown to improve outcomes and reduce mortality in ruptured ectopic pregnancies significantly.[15] Although laparoscopy generally permits faster recovery and earlier return to normal activities, laparotomy was preferred in this case due to haemodynamic instability and limited laparoscopic facilities.[16]

CONCLUSION

The finding of PV bleeding, gestational sac, and cardiac activity is highly variable in ovarian pregnancy.

Stringent criteria used by modern scientific societies that rely heavily on diagnostic tests may not be applicable in rural settings. In cases of ruptured ectopic pregnancy with hemodynamic instability, clinical suspicion and immediate resuscitative action must take precedence over confirmatory tests such as serum β-hCG measurement or transvaginal ultrasonography.

The rarity of ovarian ectopic pregnancy and its successful recognition in rural settings requires rapid decision-making and adaptive clinical practice to improve patient outcomes.

DECLARATIONS

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Conflict of Interest
No conflict of interest is present for this study.

Funding
Funding source was not required.

Ethical Clearance
We are reporting a rare case in retrospect for educational purposes, without disclosing the patient's whereabouts. Therefore, ethical clearance was not required.

Consent for the Study

The patient provided informed consent for the publication of this case report.

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