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Case Report

A case report of ruptured ovarian ectopic pregnancy

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ABSTRACT

Ectopic implantation of the fertilized egg in the ovary is rare. Most prominent risk factors of ovarian pregnancy are IVF and IUD. Its incidence after natural conception ranges from 1 in 2000 to 1 in 60 000 deliveries and accounts for 3% of all ectopic pregnancies. We presented a case of right ruptured ovarian ectopic pregnancy managed laparoscopically. Histopathological examination confirmed the diagnosis.

Keywords: Ovarian pregnancy, Histopathological examination, Case Report

INTRODUCTION

Ovarian ectopic pregnancy occurs when a fertilized egg implants and develops in the ovary. It is a rare type of ectopic gestation. Ovarian pregnancy can be identified by the pathological criteria developed by Spiegelberg, which distinguish primary ovarian pregnancies from other ectopic pregnancies in which the ovary is secondarily involved; these criteria are as follows: (a) intact fallopian tube separate from the ovary on the involved side, (b) gestational sac in the normal position of the ovary, (c) the ovary with the gestational sac connected to the uterus by the ovarian ligament, and (d) the specimen having ovarian tissue attached to, and in, the wall of the gestational sac.¹

Traditional risk factors for tubal ectopic pregnancy (e.g., fallopian tube or pelvic inflammation) are not relevant in ovarian pregnancy. Presumed risk factors for ovarian pregnancy include prior use of the intrauterine device (IUD), assisted reproductive techniques, concurrent endometriosis, pelvic adhesions, and intrauterine surgeries.¹

Findings are likely to mimic those of a tubal pregnancy or a bleeding corpus luteum. Serious bleeding is seen in

approximately one third of cases. At surgery, early ovarian pregnancies are likely to be considered corpus luteum cysts or a bleeding corpus luteum.² Although a potentially life-threatening event, the pathophysiology is not clearly understood and the diagnosis remains challenging.³ The accuracy of the diagnosis with clinical examination, HCG concentrations, and ultrasound or MRI imaging is limited, with the risk of missing the diagnosis and of over diagnosing because of cognitive bias.^{4,5} Even the laparoscopic diagnosis can be difficult and many ectopic pregnancies are only diagnosed from the histopathology report after the surgery.

CASE REPORT

Our patient was a 26-year-old nulliparous lady who presented with sudden onset severe abdominal pain confined to the right lower abdomen which was continuous in nature and bleeding per vagina for 1 day. She had irregular cycles and her LMP was 1.5 months back.

On examination, no pallor, vitals were stable PR-74 /mt, BP-110/70 mmHg, SpO₂-98%, per abdominal examination-soft, tenderness present over the right iliac

fossa, no guarding or rigidity. Urine pregnancy test was positive and beta-hCG was sent.

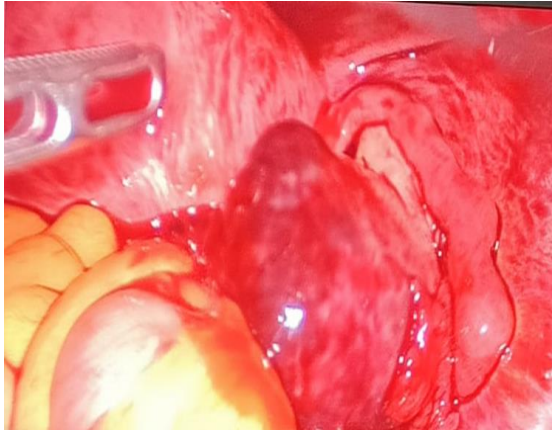


Figure 1: Ruptured ovarian ectopic pregnancy.



Figure 2: Radiological image showing hemoperitoneum.

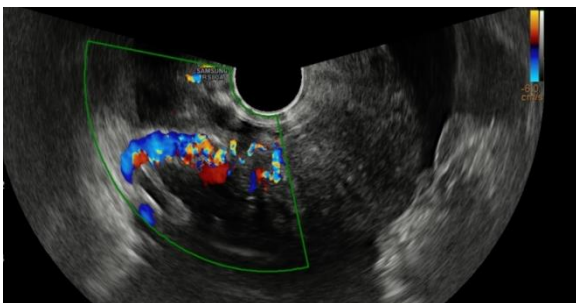


Figure 3: Heteroechoic area with significant peripheral vascularity in the right adnexa.

Transvaginal ultrasound showed normal sized uterus with no delineable intrauterine gestational sac, both ovaries were not separately visualized with a heterogeneously hyperechoic area measuring 3.6×3.6 cm in the right adnexa showing significant peripheral vascularity and moderate hemoperitoneum. A probable diagnosis of ruptured ovarian ectopic was made. She was taken up for emergency laproscopic exploration. Intraoperatively, uterus was normal in size with both tubes appearing normal, left ovary normal. Right ovary showed a lesion of

4×3 cm ruptured and oozing seen from the lesion with moderate haemoperitoneum. Wedge resection of the ovary done; specimen send for histopathological examination. Beta-hcg was 11,724. Histopathological examination confirmed an ovarian ectopic pregnancy. Post operative values of beta-hCG showed a declining pattern. Post operative period was uneventful. Patient discharged on day 5 with advice to follow up.

DISCUSSION

Ectopic pregnancy is a significant cause of morbidity and mortality, occurring in 2% to 3% of all pregnancies and resulting in a mortality rate of 2% to 2.5%.⁶ The most common site for an ectopic pregnancy is the fallopian tube, while ovarian pregnancies are rare.⁷

The etiological factors of ovarian pregnancy are not clearly understood, but they primarily involve disturbances in ovum release and fallopian tube motility. Major high-risk factors include intrauterine contraceptive devices and assisted reproductive technology (ART). Other factors include a history of pelvic surgeries, adnexal surgeries, pelvic inflammatory diseases, and endometriosis.⁸ In our case, no such histories were found.

The most common presentations of ectopic pregnancy are amenorrhea, vaginal bleeding, and abdominal pain. Specific and typical features of ovarian ectopic pregnancy have not been reported in the literature.⁸ Differential diagnosis of ovarian pregnancy requires a detailed medical history, physical examination, transvaginal ultrasound (TVS), and serum beta-hCG levels. The diagnosis is confirmed intraoperatively and through histopathological examination.

Women experiencing lower abdominal pain, with or without genital bleeding, should undergo a quantitative hCG blood test to detect or rule out pregnancy. Ectopic pregnancy can present with increasing, decreasing, or flat hCG concentration curves, making serial hCG measurements the most useful method for confirming fetal viability.⁹ Transvaginal ultrasound (TVS) plays an important role in the diagnosis.

A critical complication of ectopic pregnancy is rupture, which can lead to intra-abdominal bleeding and hypovolemic shock.¹⁰ Rupture should be suspected in patients exhibiting hemodynamic instability, such as syncope, hypotension, and tachycardia. Occasionally, women may initially appear clinically stable due to compensatory mechanisms, making physical examination crucial. Findings such as guarding, rebound tenderness, and abdominal distension indicate the need for emergency intervention.¹¹

Laparoscopic minimally invasive surgery is the preferred treatment modality for ovarian ectopic gestation. The goal is to remove the ectopic lesion while preserving ovarian

function. Partial wedge resection of the ovary is recommended.

CONCLUSION

Diagnosing primary ovarian pregnancy is challenging for clinicians. However, advancements in transvaginal ultrasonography have improved early detection, allowing for the preservation of fertility in young adults and reducing maternal mortality. Ovarian pregnancy is confirmed intraoperatively and through histopathological examination.

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