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Case Report

Unruptured ovarian ectopic gestation: a rare clinical scenario

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ABSTRACT

Ovarian pregnancy is a rare event, with the incidence ranging from 1 in 2000 to 1 in 60 000 deliveries and accounts for 3% of all ectopic pregnancies. The first case of ovarian pregnancy was published by Saint Monnisey. Authors report a case of a 23-year-old patient with severe lower abdominal pain following five weeks of amenorrhea diagnosed as tubal ectopic pregnancy on ultrasonography. The patient was taken up for emergency laparoscopy and unexpected finding of ovarian pregnancy was established. Early diagnosis and prompt treatment go a long way to prevent serious outcomes and to ensure favourable future reproductive potential.

Keywords: Ovarian ectopic, Spiegelberg criteria, Wedge resection

INTRODUCTION

Ovarian ectopic pregnancy is a rare variant of ectopic pregnancy.[1,2] Patients present with lower abdominal pain, vaginal bleeding, shock as in other cases of ectopic pregnancy or corpus luteal cyst.

Early diagnosis and management are important as life threatening conditions can be caused by rupture of gestational sac and resulting hemoperitoneum due to high vascularity of ovarian tissue.[2] Here authors report a case of 23-year-old patient with unruptured ovarian pregnancy timely diagnosed and managed by minimally invasive surgery.

CASE REPORT

A 23-year-old primigravida presented with lower abdominal pain, vaginal spotting, nausea, vomiting, and giddiness for 2 weeks. She was overdue 5 days and was tested positive for pregnancy by using the urinary kit test. There was no history suggestive of pelvic inflammatory diseases or history of prior tubal surgery or treatment for infertility. History of tuberculosis in the patient and in contacts was also negative.

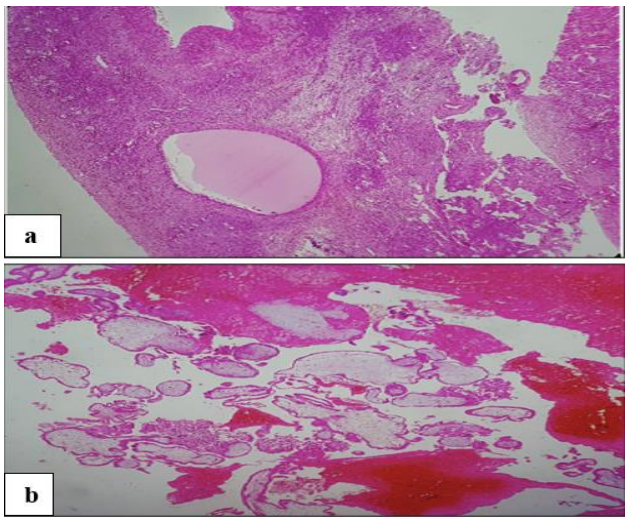

Figure 1: Histopathology findings; (a) Normal ovarian stroma with cystic follicles, (b) Chorionic villi with surrounding hemorrhage (HE X10).

On clinically examining her, vitals were stable and per abdomen examination abdomen was not distended and not suggestive of significant hemoperitoneum, vaginal examination revealed normal sized uterus and a tender right fornicial mass of 4×3 cms was felt.

Investigations

Routine blood investigations including blood grouping, complete blood count, viral markers and random blood glucose was done. Her hemoglobin on admission was 119 g/L and she tested negative for routine antenatal viral tests. A serum beta hCG ordered, was reported as 23462 mIU/L.

Trans-vaginal sonography (TVS) detected empty uterine cavity and a mixed echogenic mass of (42×33×34 mm in dimension) in the right adnexa, on the posteromedial aspect of the ovary with mild hemorrhagic fluid in the pouch of Douglas. Left ovary and fallopian tube appeared normal.

Differential diagnosis

From the typical history of a young female in reproductive age presenting with history of overdue followed by pain abdomen and vaginal spotting, authors included threatened abortion, missed abortion, ectopic pregnancy and hydatidiform mole in the list of the differential diagnosis. A diagnosis of right sided ectopic pregnancy was made from the history of missed period, positive beta hCG, and the ultrasound sound which showed an empty uterus, right sided mass and free fluid in the pelvis.

Treatment

The patient underwent emergency laparoscopy, there was mild hemoperitoneum (50 cc), and both the fallopian tubes were found normal in the entirety of length. An unruptured bluish red, right ovarian mass of 4×3 cm was identified. A diagnosis of ovarian ectopic gestation was made as the findings satisfied three out of four of the Spiegelberg criteria. In a bid to preserve the patient's fertility potential a wedge resection of the mass as to include a healthy margin of ovarian tissue was accomplished. Hemostasis was achieved and the surgical specimen was sent for histopathology.

Histopathology report confirmed the presence of ovarian tissue with products of conception (Figure 1a, 1b) thus confirming the fourth Spiegelberg criteria.

Outcome and follow-up

The patient was discharged on the 3rd postoperative day with a beta HCG level of 2817 mIU/ml. Serial weekly beta HCG levels were monitored until found negative at the end of 2nd week. The following year the patient conceived spontaneously and an early ultrasound confirmed an intrauterine pregnancy.

DISCUSSION

Though ovarian ectopic pregnancy is a rare variant of ectopic implantation, its reported incidence is rising due to evolution of transvaginal sonography and careful histological examination of ovarian tissue. Improvement in ART and increased usage of intra-uterine contraceptive devices (IUCD) adds to this increased incidence. Ovarian ectopic occur by fertilization of an ovum retained in peritoneal cavity leading to implantation on ovarian surface or failure of ovulation and fertilization in ovary. It often mimics a tubal ectopic pregnancy or a ruptured corpus luteum. 3 Other risk factors include history of tubal surgery, previous ectopic pregnancy, endometriosis and pelvic inflammatory disease.[4-7]

The increase in the incidence of ovarian pregnancy is closely related to the use of intra uterine devices. These prevent uterine implantation and by altering tubal motility facilitate implantation in the ovary.[8,9] Plethora of medical literature have shown IUCDs to reduce uterine implantation by 99.5%, tubal implantation in 95% while having no effect on ovarian location.[9-11] Ovarian ectopic typically terminates with rupture during the first trimester, owing to loose connective tissue, rich vascular supply and lack of muscle fibres in ovarian substance. Serious intraperitoneal bleeding is seen in approximately one-third of cases. Early diagnosis and treatment is critical to prevent serious outcomes. Delayed presentation or diagnosis can be fatal with massive haemorrhage and carry a risk of oophorectomy with subsequent reduced fertility. High-resolution transvaginal ultrasonography goes in a big way to diagnose ovarian pregnancy; however, confirmation is based on surgical and histopathological correlation. Diagnosis of ovarian ectopic pregnancy is by Spiegelberg criteria which differentiates ovarian ectopic from other ectopic gestations and include.[12]

- Intact ipsilateral tube, clearly separate from the ovary.
- Gestational sac within or replacing the ovary.
- Gestational sac connected to uterus by ovarian ligament.
- Histologically proven ovarian tissue located in the sac wall.

Ge L et al had reported characteristic wide hyperechoic ring or mass formed by gestational trophocyte infiltrating against the normal echogenicity of surrounding normal ovarian tissue.[13]

Little data is available in literature about medical treatment with methotrexate, probably because ovarian pregnancy is diagnosed in emergency settings when surgical treatment is the gold standard. Few evidences of successful medical treatment of OP with systemic

methotrexate was reported though the clinical practice is rare.[14,15] The premise of all medical treatment is to make a definite diagnosis, and the definitive diagnosis of OP by ultrasound will increase the proportion of cases managed medically in future. The minimally invasive surgical approach is appropriate, either entire ovary including the ectopic pregnancy has to be removed or wedge resection of the ovary can be done. The advantages of laparoscopic surgery include short operating time, shorter hospital stay and recovery. In case of an emergency as circulatory collapse, immediate laparotomy will be suitable to quickly control bleeding. When fertility is not a concern or if ovarian function cannot be preserved, adnexectomy can be done. In this case since she was a primigravida, wedge resection was done to preserve her fertility.

There is a paucity of medical literature in this entity and only a handful of case reports exist.

Learning points/take home messages

- High suspicion is obligatory for early diagnosis of ovarian pregnancy.
- Early diagnosis and treatment are critical to prevent serious outcomes and to overcome drastic complications.
- Fertility sparing surgery should be preferred in young patients wishing to preserve fertility.

Keeping in mind the rarity of this clinical situation, case-series and clinical trials are probably not feasible and thus case reports are a useful source of data to the clinicians.

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