Primary ovarian ectopic pregnancy: an unusual case study with conservative management by wedge resection

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Abstract
The word ectopic comes from the Greek word “ekttopos” which means “out of place”. Ovarian pregnancy is rare occurring in 1-3% of all ectopic pregnancies. Ectopic is a potentially life threatening adverse pregnancy outcome that requires prompt evaluation and treatment. It results in significant maternal morbidity, fetal loss, repeat ectopic, impairment of subsequent fertility. Though ovarian pregnancy has a distinct pathology, it can be a source of clinical and intraoperative diagnostic difficulty. We report a case of primary ovarian pregnancy with conservative management by wedge resection.

Key words: ectopic, ovarian, pregnancy

Background
Ovarian pregnancy is a rare event with incidence between 1 in 2100 to 1 in 7000 pregnancies, or 1-3% of all ectopic pregnancies [1]. The incidence has increased with causes attributed to better diagnostic modalities, increased use of intra-uterine devices, ovulatory drugs, history of pelvic inflammatory disease (PID) and assisted reproductive techniques [2-4].

Ovarian pregnancy is frequently misdiagnosed clinically as a tubal ectopic pregnancy. Intraoperative, it is difficult to differentiate ovarian pregnancy, ruptured corpus luteal cyst or hemorrhagic ovarian cyst. There is an obvious need to differentiate between tubal ectopic and ovarian ectopic pregnancies as it will aid in management. Thus, here it lies the necessity of reporting our case [5, 6].

Case report
A 28 year-old multigravida woman presented with lower abdominal pain, mild vaginal bleeding with 10 weeks of amenorrhea. She did not have any past history of pelvic inflammatory disease or insertion of an intra-uterine device. Tachycardia (110 bpm), blood pressure 100/70 mm Hg, with abdominal guarding and tenderness were noted on examination. Per vaginal inspection revealed mild bleeding and bi-manual examination was painful with the presence of a 5 cm right adnexal mass. Haemoglobin was 8.5 gm/dl and pregnancy test was positive. Transvaginal sonography showed a gestational sac with a pulsating foetus in the region of the right ovary with a crown rump length corresponding to the nine gestational week, and with intra-abdominal haemorrhage suspicious of ovarian ectopic pregnancy. Culdocentesis was positive for haemoperitoneum. Ruptured ectopic pregnancy was diagnosed and emergency laparotomy was performed.

The operative findings revealed ruptured right ovarian pregnancy. Wedge resection and enucleating the mass from the ovary and hemostatic suturing of the ovarian defect were performed on the right side and the specimen was sent for histopathological examination (Fig. 1, 2).

The ovary was enlarged with a foetus attached. The micro sections showed multiple chorionic villi lined by trophoblastic cells along with deciduas in the ovarian tissue. Thus, a diagnosis of primary ovarian pregnancy was made.

The patient had an uneventful postoperative period and was discharged without complications. Follow up with β-hCG weekly till zero occurred in 2 weeks.

Fig. 1. Ruptured ovarian ectopic pregnancy

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Primary ovarian ectopic pregnancy

Discussion

Ovarian pregnancies constitute 1-3% of ectopic pregnancies [1]. Younger age, endometriosis, pelvic inflammatory disease, intra-uterine devices, ovulatory medications, and assisted reproductive techniques are risk factors.

The incidence is likely to be underestimated as many pregnancies die and involute spontaneously. More than 90 percent of ovarian pregnancy present acutely [7]. Abdominal pain, with or without vaginal bleeding, is a common clinical symptom along with symptoms similar to those of tubal pregnancies, including circulatory collapse [7].

In the case-report, the patient denied any history of risk factors. It can be hypothesized that this ovarian pregnancy resulted from intrafollicular fertilization that took place following failure of ovum extrusion after follicular rupture. The combination of symptoms of acute abdomen with history of amenorrhoea, raised β-hCG levels, and an ultrasonographical empty uterus should also trigger an investigation for not only tubal pregnancy, but also ovarian ectopic pregnancy [5, 6].

Laparotomy was performed in our cases as the patients arrived in hemodynamically unstable condition. The established modes of surgical treatment of ovarian pregnancy are either removal of the entire ovary containing the ectopic gestation or performing a wedge resection of the ovary. Because of viable ovarian tissue of the affected side and young age of the patient, wedge resection with enucleation of the sac was done.

Over a century ago, Spiegelberg [8] described criteria for an ovarian pregnancy. They were: the fallopian tubes, including fimbria, must be intact and separate from the ovary; the gestational sac must occupy the normal position of the ovary; the ovary must be attached to the uterus through the utero-ovarian ligament; and, there must be ovarian tissue attached to the pregnancy in the specimen. Histologically, our case revealed placent al and trophoblastic tissue in the ovarian tissue, indicative of the ovarian origin of the ectopic pregnancy. Hence, a diagnosis of primary ovarian pregnancy was made.

The differential diagnosis for ovarian pregnancy remains a clinical challenge that is to distinguish an ovarian ectopic pregnancy from a corpus luteum or hemorrhagic cyst or even ruptured chocolate cyst. A corpus luteum in an early or failing intrauterine or tubal pregnancy can mimic a cystic adnexal mass without clear intrauterine gestation.

Conclusion

Ovarian ectopic pregnancy is rare and expected to rise as more patients opt for fertility therapy. Despite modern diagnostic modalities, these patients continue to present in circulatory collapse. The necessity to maintain a high index of suspicion is required to ensure an efficient mode of treatment, appropriate prognosis, and patient counselling. Usually surgical treatment in form of oophorectomy or wedge resection of the ovary is required.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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References


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