Ruptured ovarian pregnancy in a primigravida

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Abstract

Primary ovarian ectopic pregnancy is a rare entity and is associated with rupture very early in the gestation. We present a case of ovarian pregnancy in a primi gravida, which ruptured relatively late in the first trimester. The patient did not have any predisposing factors for ovarian pregnancy. The case was managed laparoscopically, and the diagnosis was based on surgical and histopathological findings.

Key words: Predisposing factors, primi gravida, ruptured ovarian pregnancy
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Introduction

Primary ovarian pregnancy is a rare entity and poses a diagnostic challenge to the clinicians. The first case of ovarian pregnancy was reported by St. Maurice in 1689. Hertig estimated that the ovarian pregnancy occurs in one in 25,000–40,000 pregnancies. In recent times, some predisposing factors have been identified for ovarian pregnancies.

Case Report

The 20-year-old primi gravida with amenorrhea of 9 weeks presented to the Department of Obstetrics and Gynecology with complaints of mild pain in the lower abdomen since 1-day. There was no history of bleeding per vaginum, fever or vomiting. She was married for one and half a year, and her previous menstrual cycles were regular with an average flow. There was no history of contraception. The present pregnancy was conceived spontaneously, and her urine pregnancy test was positive at a private hospital. Ultrasonography (USG) done in that hospital was suggestive of tubal ectopic pregnancy, and hence patient was referred here for further management.

On examination, she was afebrile with mild pallor and a pulse of 82/min, blood pressure of 110/70 mmHg. Per abdominal examination showed diffuse mild tenderness in the lower abdomen, but otherwise was soft. Per vaginal examination showed uterus of normal size and mild tenderness on cervical motion. A palpable mass was felt in the right fornix of about 4 cm size.

On investigations, hemoglobin was 11.5 gm/dl, total leucocyte count was 10,100/cmm, platelet count was 1.91 lakh/cmm, blood group was O positive, random blood sugar was 99 mg/dl, serum creatinine was 0.6 mg/dl. Urine analysis was within normal limits.

On USG in our institute, the uterus measured 72 mm × 32 mm × 31 mm. Mild collection in the endometrial cavity was present along with moderate free fluid in the pouch of douglas, and a right tubo-ovarian mass lesion was noted, possibly an ectopic gestation. Transvaginal USG was reported as a hyperechoic lesion in the right adnexal region measuring 39 mm × 35 mm, suggestive of ectopic tubal gestation [Figure 1].

The patient was taken for laparoscopic procedure. Intraoperatively, the uterus was of normal size, both fallopian...
tubes and left ovary were normal. The right ovary was enlarged 4.5 cm × 4 cm and appeared to be ruptured with adherent blood clots and visible oozing on the surface of the ovary. There was hemoperitoneum of about 250 ml.

Laparoscopic right salpingo-oophorectomy was done, and specimen was sent for histopathology. The postoperative period was uneventful, and the patient was discharged on 3rd day, and advised for review and follow-up.

On histopathological examination, the gross specimen showed smooth, bosselated, grayish-brown ovary 4 cm × 3.5 cm with adherent blood clots on the external surface. Its cut section showed a yellowish corpus luteum and fine greyish granular areas towards the surface [Figure 2].

The microscopy revealed large areas of recent hemorrhages, trophoblastic villi embedded within the ovarian parenchyma and corpus luteum, which were confirmatory of primary ovarian pregnancy [Figure 3]. The right fallopian tube was intact and showed normal morphology.

The intraoperative findings and the histopathology satisfied the Spiegelberg’s criteria for ovarian pregnancy[2] like-intact fallopian tube on the affected side; fetal sac occupying the position of the ovary; ovary connected to the uterus by ovarian ligament; definite ovarian tissue found in the sac wall.

**Discussion**

Tubal ectopic pregnancies are far more common than ectopics at any other site. Primary ovarian pregnancy is one of the rarest types of extra-uterine pregnancies.[2] Some of the cases are associated with predisposing factors such as the use of intrauterine contraceptive device,[3] assisted reproductive technology, endometriosis and pelvic inflammatory disease.[4] Our patient did not have any of these risk factors, and the present pregnancy had occurred in a spontaneous cycle. The proposed hypotheses for ovarian ectopic pregnancy are nonrelease of the ovum from the ruptured follicle, tubal malfunction and inflammatory thickening of the tunica albuginea.[3] The patients usually present early in the gestation due to weakening of the ovarian albuginea by the invading trophoblastic tissue.[3] Our patient had presented relatively late at 9 weeks of gestation. The signs and symptoms of ovarian pregnancy are similar to tubal pregnancy, and mimic ruptured hemorrhagic corpus luteum and/or chocolate cysts.[3] Almost in two-thirds of cases they are diagnosed clinically as hemorrhagic corpus luteum.[5] Ovarian pregnancy usually ends in rupture during the first trimester in 91% cases, 5.3% in the second trimester and 3.7% in the third trimester.[5] Cases of ruptured ovarian pregnancy with hemoperitoneum present with severe lower abdominal pain and giddiness and also sometimes as a heterotopic ovarian pregnancy as reported by Aniket et al.[8] However, our patient had come for further management...
of an ectopic pregnancy and at presentation had only mild abdominal pain. If the patient is stable then laparoscopy with ovarian sparing is the current surgical treatment of choice.[9] In our case, the ectopic pregnancy had already ruptured, and a salpingo-oophorectomy had to be carried out to achieve good hemostasis. The diagnosis of ovarian ectopic is rarely made prior to surgery. During surgery, one can suspect it when a hemorrhagic mass is seen adjacent to the ovary provided the fallopian tube is normal.[8] Hallat in his study of 25 cases of ovarian pregnancy reported that the correct surgical diagnosis was made only in 28% cases. In the remaining cases, the diagnosis was made by a pathologist on histopathology.[6] In the present case, the urine pregnancy test was positive, and the USG also suggested an ectopic pregnancy although not exactly as of ovarian origin.

Intraoperatively, a presumptive diagnosis of ruptured ovarian pregnancy was made in our case but only on histopathology was it confirmed. There are three features that made this an unusual case—the relatively late gestation, milder presenting features despite the rupture, and lack of predisposing factors.

Conclusion

Primary ovarian ectopic pregnancy may occur without the presence of any of the classical risk factors or symptoms/signs, and should be entertained as one of the important differential diagnoses in a female of reproductive age group with a history of amenorrhea of short duration.

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