



Case Report:

Two Cases of Primary Ectopic Ovarian Pregnancy

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Abstract:

Primary ovarian pregnancy is one of the rarest varieties of ectopic pregnancies. Patients frequently present with abdominal pain and menstrual irregularities. Intrauterine devices have evolved as probable risk factors. Preoperative diagnosis is challenging but transvaginal sonography has often been helpful. A diagnostic delay may lead to rupture, secondary implantation or operative difficulties. Therefore, awareness of this rare condition is important in reducing the associated risks. Here, we report two cases of primary ovarian pregnancies presenting with acute abdominal pain. Transabdominal ultrasonography failed to hint at ovarian pregnancy in one, while transvaginal sonography aided in the correct diagnosis of the other. Both cases were confirmed by histopathological examinations and were successfully managed by surgery.

Key Words: Primary; Ovarian; Pregnancy; Transvaginal Ultrasound

Introduction:

Ectopic Pregnancy is an important health problem and accounts for 10% of all maternal mortality.(1) Primary ovarian pregnancy is even rarer accounting for 0.15–3% of all ectopic gestations.(2) The diagnosis of an ovarian ectopic pregnancy is seldom made before surgery.(3) Ultrasound, especially transvaginal scanning (TVS) has proved to be an invaluable tool in the diagnosis of this condition.(4) We had two cases of primary ovarian pregnancies out of 280 ectopic pregnancies during 2005-2008, incidence being 0.71%.

Case Reports:

Case 1:

A 24 years old female, with 45 days' amenorrhoea, complained of severe pain of sudden onset, in the right iliac fossa and suprapubic region for 2 days. The patient, a third gravida, had a previous history of two full term normal vaginal pregnancies. The last child had been born two and a half years earlier and thereafter, she was using intrauterine device.

On per vaginum examination, the cervix and vagina were healthy and the uterus was enlarged to 7 weeks' size. All her fornices as well as the cervical movements were tender. Her routine hematological and biochemical tests were within normal limits except for mild leucocytosis with neutrophilia. Keep-

ing pelvic inflammatory disease (PID)/tubo-ovarian mass as provisional diagnoses, an abdominal ultrasonography (USG) was suggested which revealed free fluid in pouch of Douglas but no intrauterine sac. On laparotomy the right tube appeared normal but the right ovary was enlarged and haemorrhagic. The left tube and ovary showed no abnormality. Right sided salpingo-oophorectomy with left sided tubal ligation was done and specimen was sent for histopathological examination.

On Gross examination, the ovary weighed 35 gms and measured 4.5x3.5x2.5 cms; the cut surface showed blood clots and corpus luteum; no embryo was identified grossly. The fallopian tube, measuring 5.2cm, appeared normal. On microscopic examination, the sections showed corpus luteum within ovarian stroma along with extensive areas of haemorrhage and scattered chorionic villi (Figure 1).

Case 2:

A 24 years old female patient was admitted in the surgical emergency ward on 13.03.2008 with a history of severe left sided lower abdominal pain. There was no history of difficulty in micturition, defaecation or vaginal bleeding. The last menstrual period of the patient was on 19.01.08. She had no history of PID or any contraceptive use.

On clinical examination she was pale; with a pulse rate of 108/minute and blood pressure of 110/70 mm Hg. The abdomen was slightly distended and both her iliac fossae were tender. The vaginal examination revealed tenderness in all the fornices. The clinical diagnosis of a possible ruptured ectopic pregnancy or an acute PID was made. Her urine showed positive results for pregnancy test. The TVS revealed a left adnexal, hyperechogenic mass measuring 30 x 25 mm. The endometrium was 9 mm thick and there was moderate free fluid in the pouch of Douglas (Figure 2).

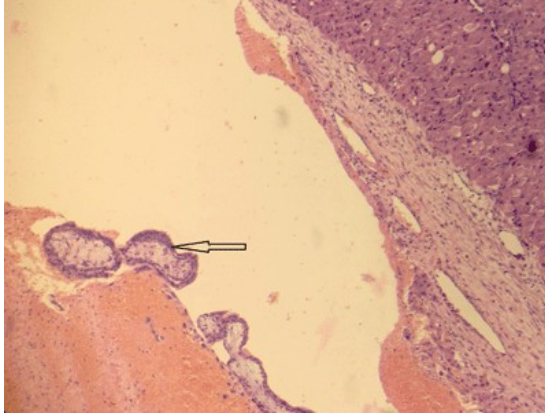


Figure 1: Microphotograph showing well preserved chorionic villi (arrow) amidst haemorrhagic area. Ovarian stroma with corpus luteum is seen in the adjacent area. (H & E, 400X).



Figure 2: Transvaginal ultrasonography showing left adnexal, ill-defined hyperechogenic mass with free fluid.

On laparoscopy, a left ovarian hemorrhagic mass measuring 3.8x3.2 cm was seen with a completely normal fallopian tube separate from the ovary. A left sided wedge excision of the hemorrhagic mass of the ovary was done and the specimen was sent for histopathological examination. On Gross examination, the ovary weighed 30gms and measured 2.0x1.5 cms. The external surface as well as the cut surface was haemorrhagic. On microscopic examination, plenty of chorionic villi lying dispersed in a background of haemorrhagic ovarian stroma were identified.

Discussion:

Primary ovarian pregnancy is a rare entity; first case being reported by St. Maurice(5) in 1682. The reported incidence is 0.15–3% of all ectopic gestations.(2) It can be classified as primary and secondary. Primary when ovum is fertilized while still within the follicle, secondary when fertilization takes place in the tube and the conceptus is later regurgitated to be implanted in the ovarian stroma. They can be intrafollicular or extrafollicular. Intrafollicular is invariably primary and extrafollicular may be primary or secondary where ovarian tissue is usually absent in the gestational sac.

The Spiegelberg (6) criterias define ovarian pregnancy which includes: (a) intact ipsilateral tube, clearly separate from the ovary; (b) gestational sac occupying the position of the ovary; (c) sac connected to the uterus by the ovarian ligament; and (d) histologically proven ovarian tissue located in the sac wall.

Risk factors such as PID and prior pelvic surgery may not play a significant role in its etiology in contrast to patients with tubal pregnancies. Ovarian pregnancy is more frequent with the use of IUD (7) corroborating with Case 1. The clinical appearance

of ovarian pregnancy differs and when asymptomatic may be missed until late gestation.(8) The diagnosis is seldom made before surgery (3). Ultrasound, especially TVS has proved to be an invaluable tool in the diagnosis, as in Case 2, where hyperechoic appearance of the trophoblast surrounded by thickened hypoechoic ovarian tissue is the only indication of an ovarian ectopic gestation.(4) Even then, it can be mistaken for a hemorrhagic corpus luteum or ovarian cyst. Ovarian pregnancies usually terminate in rupture during the first trimester in 91.0% cases, 5.3% in second trimester and 3.7% in third trimester.(1) Both of our cases presented in 1st trimester. Only one case has been reported in literature where ovarian pregnancy has progressed to full term delivery.(9)

The diagnosis is difficult and is a continuous challenge to the gynecologist and surgical practitioners. Ovarian rupture destroys the integrity of the organ and occasionally, that of the fallopian tube, preventing the recognition of such a gestation. Ovarian pregnancy can be treated conservatively with single dose Methotrexate. However, the preferred mode of treatment is oophorectomy by either laparotomy or laparoscopy.(10) In the past, ovarian pregnancy had been treated by ipsilateral oophorectomy, but the trend has since shifted toward conservative surgery such as cystectomy or wedge resection performed at either laparotomy or laparoscopy. Currently, laparoscopic surgery is the treatment of choice.(7) Fertility after ovarian pregnancy has been reported to be unmodified.(10)

In the present case reports, both the cases presented with lower abdominal pain of acute onset and a provisional diagnosis of ectopic pregnancy, acute PID or a tubo-ovarian mass was made. In one of the cases, TVS showed a left ovarian echogenic mass and free fluid in pouch of Douglas; and thus, aided in the diagnosis of an ovarian pregnancy. Both were treated by operative methods - Case 1 underwent laparotomy and Case 2, laparoscopy. Histopathological examination confirmed the diagnosis of an ovarian pregnancy in each case. Regarding fertility after ovarian pregnancy, the present cases fail to shed any light; as Case 1 underwent permanent sterilization and Case 2 was, unfortunately lost to follow up.

Although ovarian pregnancy is a rare event, awareness of this condition is important in reducing the associated morbidity and mortality. Hence, it can be concluded that ovarian ectopic pregnancy should be entertained as one of the important differential diagnoses in a female of reproductive age group presenting with acute abdomen.

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