

A Primary Ovarian Pregnancy with a Contralateral Ruptured Corpus Luteum: A Case Report

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ABSTRACT

A primary ovarian pregnancy is one of the rarest varieties of ectopic pregnancies. The conditions which are most commonly confused with an ovarian pregnancy are, a ruptured corpus luteum

cyst, a haemorrhagic corpus luteum and a ruptured endometriotic cyst. This case presents the clinical and the histological findings of a ruptured ovarian pregnancy, along with a ruptured corpus luteal cyst in the contralateral ovary.

Key Words: Primary ovarian pregnancy

INTRODUCTION

An ectopic pregnancy is an important health problem and it accounts for 10% of all the maternal mortalities [1]. A primary ovarian pregnancy is even rarer, accounting for 0.15%-3% of all the ectopic gestations [2]. The diagnosis of an ovarian ectopic pregnancy is seldom made before the surgery [3]. Pelvic pain, amenorrhoea and vaginal bleeding are the foremost classical symptoms which are found in these cases. Here, we are reporting a case of a ruptured primary ovarian pregnancy with a ruptured corpus luteum in the contralateral ovary.

CASE

A 20-year old primigravida presented to the emergency department with amenorrhoea of 6 weeks duration, acute pain in the abdomen, dizziness, vomiting and bleeding per vaginum for 1 day. On examination, her general condition was found to be very poor. She was severely anaemic, with a pulse rate of 120/minute and a blood pressure of 90/60 mm of Hg. There was severe tenderness all over her abdomen, more so in the pelvic region. On per vaginal examination, her uterus was found to be bulky, with a mass of 4x5 cm which was felt in the right fornix and a mass of 5x6 cm which was felt in the left fornix, with cervical motion tenderness and slight bleeding. The patient had come with a sonography which was done elsewhere and the finding was bilateral adnexal masses with a large amount of free fluid in the peritoneal cavity.

She underwent an emergency Laparotomy under general anaesthesia. Two litres of blood and clots were removed from the peritoneal cavity. The uterus was normal sized, with bilateral normal fallopian tubes.

The right ovary was enlarged and haemorrhagic, approximately 4x4cm, which showed rupture of the tunica albuginea, with active bleeding and a trophoblast like tissue which was adhered to the ovary. A wedge resection was done and haemostasis was achieved. The maximum amount of normal ovarian tissue was conserved.

The left ovary was enlarged (5x6cm), with 3 cystic structures on its surface, one of which was profusely bleeding. A left sided partial oophorectomy was done and haemostasis was achieved. She was transfused 3 units of whole blood. Post-operatively, she recovered

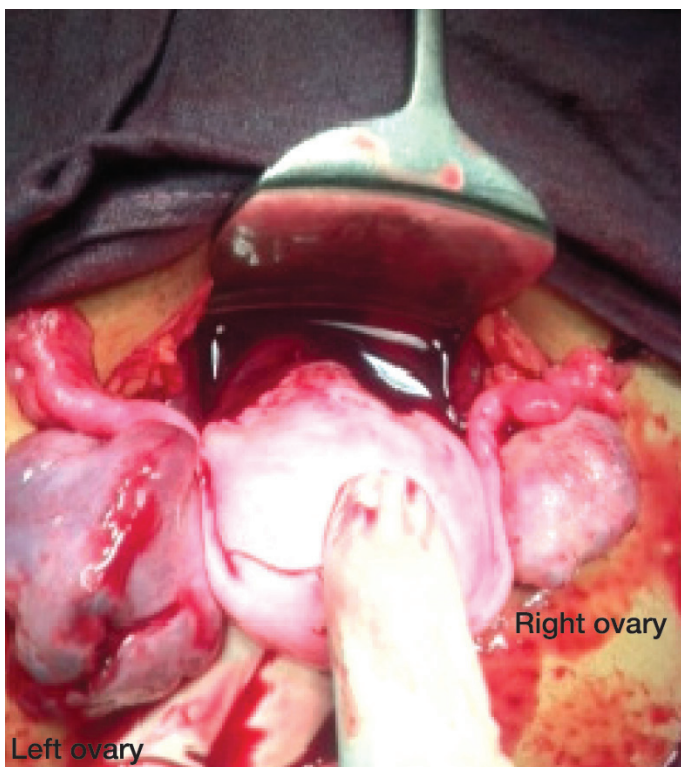
well and was discharged on day 9 after the stitch removal.

On histopathology, the right ovarian tissue showed ovarian stroma, multiple chorionic villi which were covered by trophoblastic cells and decidua with fibrin and polymorphs – which were diagnostic of an ovarian pregnancy. The left ovarian tissue showed a ruptured corpus luteal cyst and corpus haemorrhagicum.

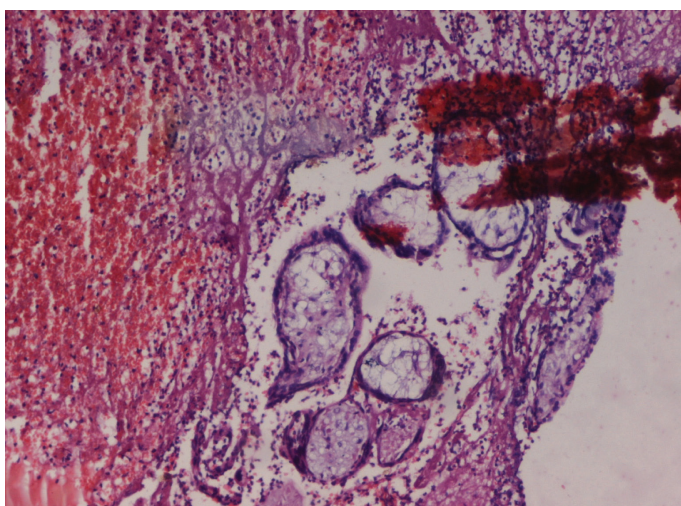
In this case, both the ruptured right ovarian pregnancy and the ruptured left corpus luteal cyst were the causes of the massive haemoperitoneum and shock [Table/Fig-1, 2, 3 and 4].



[Table/Fig-1]: Clinical photograph showing ruptured ovarian pregnancy in right ovary and ruptured corpus luteum in left ovary.



[Table/Fig-2]: Clinical photograph showing ruptured ovarian pregnancy in right ovary and ruptured corpus luteum in left ovary and bilateral intact Fallopian tubes.



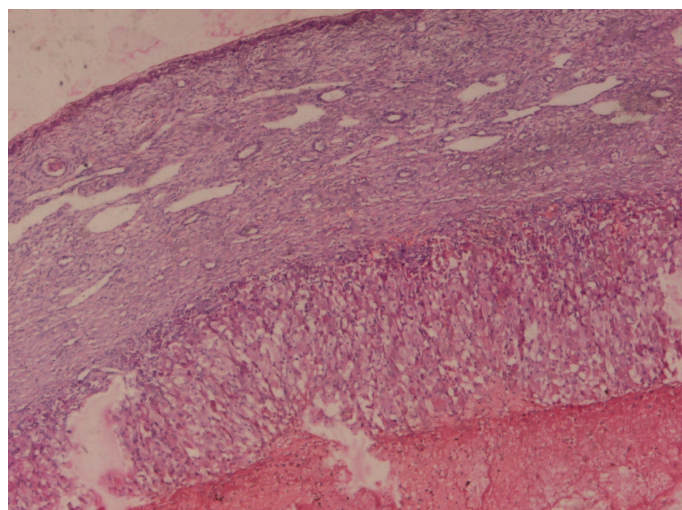
[Table/Fig-3]: Right ovary showing ectopic pregnancy with villi, hemorrhage and fibrin. (H&E X 100)

DISCUSSION

Primary ovarian pregnancy is a rare entity. The reported incidence is 0.15%-3% of all the ectopic gestations [2]. It can be classified as primary and secondary. It is called as primary when the ovum is fertilized while it is still within the follicle. It is called as secondary when the fertilization takes place in the tube and when the conceptus is later regurgitated to be implanted in the ovarian stroma. Such pregnancies can be intra-follicular or extrafollicular. An intra-follicular pregnancy is invariably primary and an extrafollicular one may be primary or secondary when the ovarian tissue is usually absent in the gestational sac [4].

Spiegelburg (1878) suggested four criteria to distinguish a primary ovarian pregnancy from a distal tubal pregnancy which secondarily involved the uterus. They are:

1. The fallopian tube with its fimbriae should be intact and separate from the ovary.



[Table/Fig-4]: Left ovary showing hemorrhagic corpus luteum with vascularised ovarian stroma. (H&E X 100)

2. The gestational sac should occupy the normal position of the ovary.
3. The gestational sac should be connected to the uterus by the ovarian ligament.
4. A histologically proven ovarian tissue should be located in the sac wall [5].

The conditions which are most commonly confused with an ectopic ovarian pregnancy, both clinically and pathologically, are a ruptured haemorrhagic corpus luteal cyst, "chocolate" cysts and a ruptured distal tubal ectopic pregnancy.

Risk factors such as PID and prior pelvic surgery may not play significant roles in its aetiology in contrast to those in patients with tubal pregnancies. The only risk factor which is associated with the development of an ovarian pregnancy is the current use of an intrauterine device. An intra-uterine device is effective in preventing intrauterine and tubal pregnancies in 99.5% and 95% women respectively. However, it has little effect on the prevention of an ovarian pregnancy [6]. Ultrasound, especially TVS, has proven to be an invaluable tool in its diagnosis, where the hyper echoic appearance of a trophoblast, which is surrounded by thickened hypo echoic ovarian tissue, is the only indication of an ovarian ectopic gestation [7].

Even then, it can be mistaken for a haemorrhagic corpus luteum or an ovarian cyst. Ovarian pregnancies usually terminate in rupture during the first trimester in 91% of the cases, in 5.3% cases in the second trimester and in 3.7% cases in the third trimester [1].

A conservative treatment is preferred if the patient is young and if she desires to bear again. Methotrexate is an effective therapeutic option in the management of an unruptured ovarian ectopic pregnancy. It permits the avoidance of more invasive interventional surgeries with possible complications such as haemorrhage, ovariectomy or later, pelvic adhesions [8]. An ovarian pregnancy can be treated conservatively with a single dose of Methotrexate. However, the preferred mode of treatment is oophorectomy by either Laparotomy or Laparoscopy [9]. In the past, ovarian pregnancy had been treated by ipsilateral oophorectomy, but the trend has since shifted towards conservative surgeries such as cystectomy or wedge resection, which are performed during either laparotomy or laparoscopy. Currently, laparoscopic surgery is the treatment of choice [10]. Fertility after an ovarian pregnancy has been reported to be unmodified [9].

In this case, a ruptured right ovarian pregnancy and a left ruptured corpus luteal cyst were profusely bleeding, causing a severe haemoperitoneum. Both these are rare and their co-existence in the same patient is still very rare.

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