

Case Report

Ovarian Pregnancy

Marouen Nedia, Turkey Elyes, Chaari Sidik, and Fatnassi Ridha*

Department of Obstetrics and Gynecology, University Hospital Ibn Eljazzar, Kairouan, Tunisia

Abstract

Ovarian pregnancy is rare, with an estimated incidence of 1/7000 pregnancies. The usual risk factors and etiopathogenic mechanisms of this condition remain unknown. The exact criteria for diagnosis were established by SPIEGELBERG more than a century ago. Diagnosis of ovarian pregnancy remains difficult because of insufficient clinical and ultrasonographic findings. Nevertheless, early diagnosis of ectopic pregnancies, including ovarian localization, greatly benefited from advances in endovaginal ultrasonography and dosages of serum beta HCG. We report a case of a left ovarian pregnancy diagnosed at 7 + 4 weeks' gestation in our department. The diagnosis was suspected by ultrasound and confirmed by histological examination. The patient underwent surgery with uneventful postoperative course. We discuss risk factors, diagnosis, prognosis, and management of ovarian pregnancy referring to literature.

Keywords: Ovarian pregnancy; Ectopic pregnancy; Laparotomy; Pathology

Introduction

Primary ovarian ectopic pregnancy is one of the rarest variant of ectopic implantation [1,2]. The incidence of this disease is ranging from 1 in 2000 to 1 in 60 000 deliveries and it accounts for 3% of all ectopic pregnancies [3,4].

The aetiology of OP has not yet been fully elucidated, and it would seem to be secondary to reflux of the fertilized oocyte to the ovary [5].

Most frequently clinical manifestations include pelvic pain, amenorrhea and vaginal bleeding. In the majority of cases, patients report no symptoms. OP diagnosis establishment is frequently difficult and is based on transvaginal ultrasonography and is confirmed by histopathological findings [3,6].

The treatment options of OP have been classically surgical in spite of medical management which can be used to treat unruptured ovarian [1].

We report a case of a left OP diagnosed at 7 + 4 weeks' gestation in our department. The patient underwent surgery with uneventful postoperative course. Risk factors, diagnosis, prognosis, and management of OP pregnancy are discussed referring to literature.

Case Presentation

A 32-year-old woman, gravid 3, para 2, admitted in our department at 7 + 4 weeks' gestation with abdominal pain and amenorrhea without vaginal bleeding. She had a previous cesarean section for acute fetal distress without other past medical history.

In the abdominal examination, sensitivity was positive in the left lower quadrant. Pelvic examination showed gravid cervix without vaginal bleeding.

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***Corresponding author:** Fatnassi Ridha, Department of Obstetrics and Gynecology, University Hospital Ibn Eljazzar, Kairouan, Tunisia, E-mail: ridha.fatnassimohamed@rns.tn

Transvaginal ultrasonography showed an empty uterine cavity, a left adnexal heterogeneous mass, 5 cm × 6 cm in diameter (Figure 1) and an intraperitoneal effusion of low abundance.

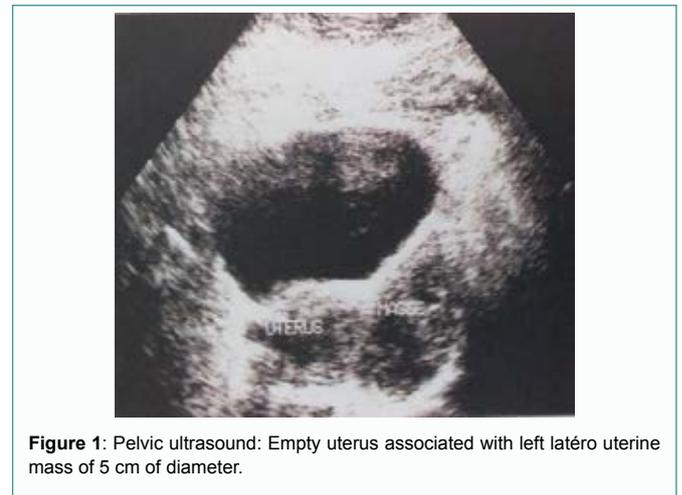


Figure 1: Pelvic ultrasound: Empty uterus associated with left latéro uterine mass of 5 cm of diameter.

The vital signs were: SBP/DBP 120/70 mmHg and pulse rate 90 beats/min. Serum beta HCG was 11 200 IU/L and hemoglobin concentration was 120 g/L.

Laparotomy was performed under general anesthesia and revealed 6 cm left ovarian mass consistent with an ovarian pregnancy. Uterus, bilateral tuba and right ovary were observed without abnormalities. A left ovary wedge resection was performed (Figure 2).

Post operative course was normal and the patient was discharged after two days. Histological examination confirmed the diagnosis of ovarian pregnancy and excluded gestational trophoblastic disease.

Discussion

This study presented the case of a patient with right OP diagnosed at 7 + weeks' gestation. OP is rare with an approximate incidence of 1% to 6% of ectopic pregnancies and of 1/7000 live births [7,8]. This incidence seems to be underestimated because early OP is frequently misdiagnosed and confused with corpus luteum or tubal pregnancy [7].

Referring to the literature, the risk factors for OP are poorly studied and include Intrauterine Device (IUD) use, previous adnexal



Figure 2: Operative tissue: A trophoblastic tissue fully implanted in the ovary.

surgeries, history of infertility, endometriosis, in vitro fertilization and embryo transfer. Although these factors play aetiological roles, they remain to be ascertained [9].

In our case, no risk factor of OP was found.

Although OP aetiology remains unclear, two main hypotheses are discussed. One hypothesis is that implantation in the ovary follows reflux of the conceptus from the tube. This hypothesis of reflux is supported by the cases of ovarian pregnancy after In Vitro Fertilization (IVF). In fact, a review of literature shows that the prevalence of ectopic pregnancy following IVF ranges between 2.1% and 9.4% of all clinical pregnancies [6]. The other hypothesis suggests that ovarian implantation is caused by various disturbances in ovum release. Intrauterine contraceptive devices may also be a cause of OP. Its action could be explained by altered tubal motility, thereby facilitating the implantation in the ovary [9].

OP is characterized by a poor clinical symptomatology. The signs and symptoms are similar to other ectopic localisations. Abdominal pain is the most complained one as in our patient. The classic clinical symptoms of OP include also amenorrhoea and vaginal bleeding. Adnexal mass may be touched on examination. Their absence of these signs does not eliminate the diagnosis [10].

In our case, the patient suffered from abdominal pain and amenorrhoea without vaginal bleeding.

Imaging tools are important to OP diagnosis. Pelvic ultrasound, especially with the use of the vaginal probe, constitutes the method of choice. Diagnosis is based on the classic description of a gestational sac adjacent to the ovary associated to a wide echogenic ring with an internal echolucent area on the ovarian surface and the presence of ovarian cortex, including corpus luteum or follicles around the mass. Three-dimensional ultrasound (3D) seems to make a difference in the differential diagnosis with corpus luteum cyst or hemorrhagic cyst [11-13].

In our case, transvaginal ultrasonography showed a left heterogeneous mass, 5x6 cm in diameter which was present adjacent to the left ovary.

Although Ultrasound may suggest the diagnosis, surgery consisting in laparoscopy or laparotomy remains the best method of a differential diagnosis. Diagnosis is suspected during laparoscopy or laparotomy and confirmed by histopathology [13-16].

The differential diagnosis includes mainly corpus luteum, tubal pregnancy, and an ruptured OP. Surgery remains the best method of a differential diagnosis [11,14,15].

Management of OP is based on many approaches including laparotomy, laparoscopy, observation and medical treatment. As medical treatment, methotrexate can be used when the patient is hemodynamically stable with no evidence of acute intraperitoneal bleeding, serum β -HCG level less than 5000 mIU/ml, absence of fetal cardiac activity and ectopic mass measuring less than 4 cm in diameter [1].

Surgical management includes mainly gestational lesion removal or ovarian wedge resection and haemorrhagic corpus luteum cyst excision for trophoblastic curettage. An adnexectomy can be performed in case of no fertility requirements and/or when the ovarian function cannot be maintained [17].

Laparoscopic surgery offers the advantages of shorter operating times, shorter hospital stay and faster recovery. Laparotomy will be done in order to quickly control of bleeding if the patient has an emergency as circulatory collapse [17].

In our case, laparotomy was performed and allowed left ovarian wedge resection.

Conclusion

Ovarian pregnancy is quite a rare condition. Its diagnosis remains difficult to make and is based on intraoperative findings. With regards to the treatment which is mainly surgical, the ovarian reserve should be protected as much as possible.

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