

Ovarian Pregnancy: A Rare Case Report

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Abstract

Ovarian pregnancy is a rare entity among ectopic pregnancies where the ovary is the site of implantation. Its diagnosis requires a well codified approach. The particularities of the determining factors, histopathological and evolutionary characteristics of ovarian pregnancies led us to take an interest in this form of ectopic pregnancy. We report a case of ovarian pregnancy treated during our shift. It concerns a 42 year old woman, multiparous, with a notion of delay of menstruation of 3 weeks. She presented to the gynecological emergency room with acute pelvic pain complicated by shock. On examination, the diagnosis of ampullary ectopic pregnancy was made. The patient was resuscitated and underwent emergency surgery. The diagnosis of ovarian pregnancy was made intraoperatively, for which a salpingectomy was performed. The postoperative course was simple. Indeed, the diagnosis of ovarian pregnancy is difficult and is based on intraoperative findings. The presence of the ovarian nidation zone on histopathological examination is optimal to confirm the diagnosis. Treatment is based on surgery with the development of conservative techniques by laparoscopy when the patient's hemodynamic state allows it.

Keywords: Ovarian pregnancy, risk factors of ovarian pregnancy, ectopic pregnancy and treatment.

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INTRODUCTION

Ovarian pregnancy (OP) is a type of pregnancy where the ovary is the site of implantation [1]. It occupies a special place among ectopic pregnancies because of its rarity, which is linked to its definition, which takes into account well-defined criteria, and to well-coded diagnostic procedures. The exact mechanism leading to GO is still poorly elucidated [2]. Preoperative diagnosis remains a challenge for all practitioners. Treatment is based on surgery with the development of conservative techniques by laparoscopy. The objectives of this work are to analyze the determining factors of GO, to support the therapeutic and histopathological particularities of this ectopic pregnancy.

CASE REPORT

Our patient was 42 years old, multiparous, admitted during our shift with a hemodynamic shock

complicating pelvic pain that had occurred a few hours earlier. On examination, we reported the absence of contraception and a delay in menstruation of 3 weeks. On clinical examination, the patient was agitated, pale, with profuse sweating. The hemodynamic constants are unstable with hypotension and tachycardia. The abdomen is distended with dullness of the flanks, the cervix is closed with minimal bleeding. Abdominal ultrasound revealed a large effusion reaching the Morisson's pouch with evidence of hyperechoic blood clots. The examination was completed by an endovaginal ultrasound with evidence of an empty uterus and a right para uterine mass of 5 cm in length. The hemocue showed a hemoglobin of 6g/dl and the urine pregnancy test was positive (the blood test recovered later showed a level of β -chorionic gonadotropin of 3000 IU/ml). The patient was taken to the operating room for hemodynamic resuscitation, conditioning, and transfusion of three red blood cells. A

mini laparotomy was performed. On exploration, a large hemoperitoneum with blood clots (1.5 liters aspirated) and the presence of a ruptured right ovarian extra uterine pregnancy were found. A right adnexectomy was performed. Hemostasis was assured and the postoperative course was simple with negativation of the β -chorionic gonadotropin level after weekly monitoring (Figure 1).



Figure 1: Intraoperative photo of ovarian pregnancy with burst ovary

DISCUSSION

An ectopic pregnancy is characterized by the implantation and development of an embryo outside the uterine cavity. Ectopic pregnancies can occur in the interstitial (2.4%), isthmic (12.0%), ampullary (70.0%) or fimbrial (11.1%) portion of the fallopian tube or in the ovary (3.2%) or abdomen (1.3%) [3]. Ovarian pregnancy therefore remains very rare with an incidence of approximately 1/2500 to 1/5000 births [4]. Other authors, such as Sergent and Seiner, estimate that GO is much more frequent than previously thought, with an estimated incidence of 1 in 1400 births [5, 6]. The population at risk is different from those of patients with tubal EP, since it is represented by young women, most often fertile, multiparous and wearing an IUD [5]. The cause of primary ovarian pregnancy remains obscure, and it would appear to be secondary to reflux of the fertilized oocyte into the ovary [6].

The clinical symptomatology is unremarkable, with abdominal pain, delayed menses and metrorrhagia being the most common presenting features [7]. The pain corresponds to the rupture of the ovarian capsule by the GO and the formation of hemoperitoneum [6, 8]. Patients are most often seen in an emergency context, with significant hemoperitoneum or even in a state of hypovolemic shock [8]. But other circumstances have been reported. Like that of Pan *et al.* an original case of

GO in a clinical picture of adnexal torsion has been reported [9]. Similarly, very rare observations after inter-annexal hysterectomy have been reported [10]. Preoperative diagnosis of this condition is extremely rare and difficult, as ectopic pregnancy often resembles corpus luteum cysts [11].

Anatomical pathological examination is of paramount importance in order to confirm the diagnosis of GO. Its purpose is to eliminate primary abdominal pregnancies, those grafted on the ovary but originating from a tubo-abdominal abortion, and those in which the ovary is not the exclusive site of implantation, according to Spielberg's anatomical criteria in 1878 [12]: the tube on the affected side, including the auricle, must be free of any lesion; the ovarian sac must occupy the usual anatomical place of the ovary there must be ovarian tissue within the ovarian sac and therefore chorionic villi must be found in the ovary [13]. Based on the anatomical criteria defined by Spielberg and Riethmiller [13], several classifications of GO have been proposed, but we retain that of Sergent *et al.*, [6]. This team proposes to combine the following criteria:

- Plasma HCG level higher than 1000 IU /L associated with uterine vacuity on endovaginal ultrasound,
- Ovarian damage confirmed by surgical exploration,
- Presence of healthy fallopian tubes;
- Decrease and negativation of plasma HCG levels after treatment of the ovary.

With regard to treatment, Sergent's team recommended surgery as the gold standard [6]. Currently, the treatment of ovarian ectopic pregnancy is divided into surgical and conservative, depending on the time of initial diagnosis. Regarding conservative treatment, methotrexate can be used in early stage patients with hemodynamic stability. The classic surgical approach with laparotomy or laparoscopy is wedge resection of the ovary and suturing of the remaining ovarian tissue. If the diagnosis is made late or the patient presents with hemodynamic shock, an oophorectomy or adnexectomy may be necessary [14]. More and more teams advocate conservative surgical treatment with wedge resection of the ovary which would not affect subsequent fertility [11]. Wedge-shaped ovarian resection has been performed using scissors and bipolar diathermy for coagulation of the ovarian pregnancy bed [15]. Finally, some teams have attempted successful treatment with laparoscopically assisted local etoposide injection [16].

CONCLUSION

Ovarian pregnancy remains a rare condition but advances in ultrasound and lack of knowledge of diagnostic criteria may increase its incidence. Treatment is based on surgery with the development of conservative techniques by laparoscopy.

The patient gave consent for publication.

We declare no conflict of interest

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