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Ovarian Pregnancy: A Case Report

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Abstract: A case report of ovarian pregnancy is presented. A 38 year old woman, gravida 3 para 2, was admitted to the hospital for suspected ectopic pregnancy, with vaginal bleeding at 12 weeks after her last menstrual period, associated with pelvic pain. An ultra-sonography led to the diagnosis of ovarian right ectopic pregnancy with dead fetus associated with a compartmentalized hemoperitoneum. Unilateral oophorectomy was carried out by laparotomy. Histological studies confirmed an ovarian pregnancy.

Key words: Ovarian pregnancy, oophorectomy, sonography

INTRODUCTION

Ovarian pregnancy is an uncommon form of ectopic pregnancy constituting <3% of all cases (Rosai, 2004), the incidence varies between 1:6000 and 1:40,000 pregnancies (Marret *et al.*, 1997). There appears recently to have been an increase in ovarian pregnancy because of the improvement in diagnosis ability (Sandra, 2004). Sonography and B-human chorionic gonadotrophin (B-hCG) have made it easier for the early preoperative diagnosis of ectopic pregnancy (Sandra, 2004). Ovarian pregnancy is very rare (Marret *et al.*, 1997).

CASE REPORT

A 38 year old woman, gravida 3 para 2, was referred to our hospital for suspected ectopic pregnancy, with vaginal bleeding, at 12 week after her last menstrual period, associated with pelvic pain. She denied any past history of pelvic inflammatory disease, ectopic pregnancy or intrauterine device use. She had just felt, 4 week before, a drastic pelvic pain which had disappeared in a few hours. Her pelvic examination noted a bulging painful cul-de-sac and uterine spotting. There was no acute distress and no abdominal pain. B-hCG was measured at 1500 mIU mL⁻¹ and transabdominal ultrasonography were performed. The ultrasound revealed a thickened endometrial cavity with an empty uterus, a cystic hemoperitoneum in the pouch of Douglas cul-de-sac and a right ovarian ectopic pregnancy. The appearance of a corpus luteum cyst was noticed on the left ovary. Because of the enormity of the ovarian mass, with a significant hemoperitoneum which contraindicated laparoscopy, laparotomy was performed and revealed a ruptured right ovarian pregnancy with a cystic

hemoperitoneum. The other pelvic structures, especially the right tube, were entirely normal, the left ovary presented a corpus luteum. There was no evidence of endometriosis or chronic inflammation in the pelvis. A unilateral oophorectomy was carried out and the mass sent for histological examination.

The ovarian specimen measured 6.5×5×4.5 cm. There was a thick cyst which contained a small embryo measuring 15 mm in crown-rump length. Ovarian stroma, blood clots and chorionic villi were seen, in continuity, in the peripheral region of the ovary consisting of ovarian cortex. The patient was judged to have fulfilled all of Spiegelberg's criteria. No corpus luteum was seen on the right ovary. The patient had an uneventful postoperative course and was discharged on the fifth day. B-hCG control was normal (<10 mIU mL⁻¹) 3 week later.

DISCUSSION

Spiegelbrg described, four criteria for the diagnosis of ovarian pregnancy (Marret *et al.*, 1997). The tube has to be entirely normal, the gestational sac has to be anatomically sited in the ovary, the ovary and the gestational sac have to be connected to the uterus by the utero-ovarian ligament and placental tissue has to be mixed with ovarian cortex (Marret *et al.*, 1997). Present case fulfilled those criteria. Macroscopically, ovarian pregnancy can take the appearance of an ovarian hematoma, clear ovum, embryonized ovum<3 months and placenta with fetus aged>3 months. Histology alone can confirm the diagnosis and distinguish the four forms: Intrafollicular, juxtafollicular, juxtacortical and interstitial pregnancy. The present report concerns an interstitial embryonized ovarian pregnancy (Sandra, 2004). Ovarian pregnancy with a contralateral corpus luteum is a very

rare form (Bouyer *et al.*, 2002). The ratio of ovarian pregnancies to all ectopic gestations is 1-6% (Marcus and Brindes, 1993). The estimated incidence of ovarian pregnancy ranges from approximately 1 in 6000 to 1 in 40,000 pregnancies (Marret *et al.*, 1997). Ovarian pregnancy is in itself an uncommon type of ectopic pregnancy (Bouyer *et al.*, 2002). Environmental conditions favouring tubal ectopic gestation such as pelvic inflammatory disease, previous surgery and history of infertility are very rare in ovarian pregnancies (Della Giustina and Denny, 2003). Recurrence is also exceptional and as the fertility of these women is conserved, the next pregnancy is usually intrauterine (Chao *et al.*, 2005). However, a few risk factors seem to be present for ovarian pregnancies: Endometriosis and intrauterine device usage are reported to contribute in the majority of cases (Chao *et al.*, 2005). Ovarian implantation may occur secondarily in the corpus luteum or extrafollicularly. This theory has been demonstrated by *in vitro* fertilization (Philippe *et al.*, 1987). A few cases of ovarian pregnancies have been previously described after embryo transfer (Philippe *et al.*, 1987). However, ovarian pregnancy may occur without these factors (Ohba *et al.*, 1992). Preoperative diagnosis is still difficult for ectopic pregnancy and especially ovarian pregnancy (Raziel *et al.*, 1990). In recent years, B-hCG and transabdominal ultrasound scanning have been well established for diagnosis of ectopic pregnancies (Christine *et al.*, 2005). This form of scanning leads to an early diagnosis when there are only suspicious symptoms like antenatal bleeding and pelvic pain present. Ruptured ectopic pregnancy with circulatory collapse (Panda, 1990) or wrong diagnosis of malignant ovarian tumors producing HCG may also decrease the accuracy of diagnosis. An emergency situation with hemoperitoneum can result in an emergency laparotomy and sometimes blood transfusions (Shamma and Schwartz, 1992). However, ovarian pregnancy has been treated by laparotomy with at least oophorectomy. Conservative treatment, as well as laparoscopy, might be proposed in the early diagnosis of ovarian pregnancy in order to avoid a laparotomy (Shamma and Schwartz, 1992).

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