Ovarian pregnancy: a case report

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Summary

We report a rare case of ovarian pregnancy occurring in a 34-year old woman after natural conception. The natural history, management, and outcome of this rare extrauterine pregnancy are described.

Key words: Ovarian pregnancy; Ectopic pregnancy.

Introduction

Ovarian pregnancy is a rare condition, accounting for 0.5-3% of all ectopic pregnancy (EP) [1, 2]. The incidence, after natural conception, is 1/7,000-60,000 deliveries [3].

In recent years the incidence of extrauterine pregnancy in general, and ovarian in particular, has increased.

Some of the factors contributing to this increase are intrauterine contraception devices and other medical or surgical procedures for fertility and sterility, the use of EP therapy on the female reproduction tract, number of sexual partners, early age at first intercourse, history of abdominal surgery, pelvic inflammatory disease and salpingitis and smoking. No consistent ralationship has emerged with parity, indicators of socioeconomic status, menstrual history or body mass index [4].

We report a case of primary ovarian pregnancy occurring in a 34-year-old woman after natural conception.

Case Report

A 34-year-old woman, gravida 1, para 1, spontaneous abortion 1, was admitted to our Unit complaining of vaginal bleeding and pelvic pain. She was sexually active and was not using any form of birth control. She had menarche at 13 years of age and her menstrual flow was regular every 28 days. She underwent appendectomy when she was 12 years old and during the first pregnancy she had gestosis. Her last menstrual period was six weeks prior to admission.

Pelvic examination demonstrated a tender and closed cervix; there was a small amout of blood in the vagina and the uterus was not enlarged or tender to palpation. The left adnexa was normal in size but the right one was enlarged. Human chorionic gonadotropin serum was 9.300 nU/ml and after one day 11,500 nU/ml.

Pelvic ultrasonography revealed a normal sized non-gravid uterus and normal left adnexa but in the right ovary the anechoic space appeared with a hyperechoic wall of 10 mm. The Douglas pouch contained a fluid area of 2.5x5.5 cm. Cardiac activity was not shown. An ovarian pregnancy was suspected.

Because of the symptoms and the laboratory findings (included: Hb= 9.7; Hct= 27.5) an emergency laparotomy with resection of the right adnexa was performed.

Following incision of the peritoneum free fluid in the abdomen was observed and the right tube was adhering to the exterior wall of the right ovarian suspension ligament. The adnexa was free and had a large corpus luteum on the antimesenteric side with a central crater-formation. A losange incision was performed to ablate this formation and to rebuild the adnexa.

Nine months after laparotomy the patient had a new gestation which is still in course.

Discussion

Ovarian primary pregnancy after natural conception is a rare presentation of ectopic pregnancy. The incidence, 1 in 7,000 deliveries and less than 3% of all ectopic pregnancies [3], is not very well clarified because in the literature there is no meta-analysis.

The generally accepted mechanism is that fertilization occurs outside the ovary followed by implantation within the ovary [3].

None of the authors seem to agree that the IUD is responsible for an absolute increase in the incidence of this disease [3, 5].

Other etiologic factors of this primary ectopic pregnancy have been indicated: use of EP, tubal surgery, pelvic inflammatory disease, oophoritis and history of infertility.

The symptoms include lower abdominal pain, bloody vaginal discharage, an adnexal mass and positive serum pregnancy test. The primary evaluation is made by ultrasonography with color-Doppler, but the differential diagnosis of a ruptured corpus luteum (CL) or a tubal pregnancy is very important.

In a study of seven patients by Marcus *et al.* vaginal ultrasound scanning showed a thick-walled cystic mass in the ovary with internal echoes and fetal heart motion in one case and internal echoes but no fetal heart motion in four cases; there was free fluid in the Douglas or the periovarian fossa. In the remaining two patients the ultrasonographic diagnosis was interstitial pregnancy in one and a ruptured EP in the other [6].

In another study by Chelmow *et al.* pelvic ultrasound revealed a 7x7 cm complex adnexal mass extending into the cul-de-sac, as well as the presence of moderately echogenic free fluid consistent with blood [7].

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In a study by Al-Meshari and co-workers none of the reported cases was an ovarian pregnancy diagnosed preoperatively. Indeed, two were clinically diagnosed as tubal pregnancies and one was suspected to be an ectopic pregnancy, with the remaining one a suspected acute PID [8].

In any case which is not an emergency, laparoscopy is valuable in the diagnosis and therapy. When ovarian pregnancy is suspected a biopsy of the affected ovarian area shows chorionic villi within the ovarian lesion.

However a definitive diagnosis of ovarian pregnancy can be made only by histopathology after laparoscopy or laparotomy.

Moreover, diagnosis of an ectopic pregnancy is very difficult, and according to many authors the criteria of Spiegelberg should be followed [9].

In our case such findings were confirmed and histologic findings were consistent with an intraovarian pregnancy.

Several authors have proposed that Spiegelberg's criteria be re-evaluated because of the laparoscopic management.

Since most ovarian pregnancies, and ectopic pregnancy in general, have ruptured at the time of diagnosis, resection or oophorectomy by laparotomy is common therapeutic management. This was our case, thus after accurate ultrasound scanning and monitoring of beta hCG serum levels, conservative surgical treatment was performed consisting of resection and reconstruction of the adnexa. In fact, the patient nine months after laparotomy was pregnant again.

However in non-emergency situations with an ultrasonographic early diagnosis, primary medical therapy with methotrexate could be performed [7], as in other EPs [10].

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