DOI: 10.5350/SEMB.20151123091628

Ruptured Ovarian Pregnancy and Its Laparoscopic Management: Case Report

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ABSTRACT:

Ruptured ovarian pregnancy and its laparoscopic management: Case report

Ovarian pregnancy is a rare form of ectopic pregnancy but it is the most common type of nontubal ectopic pregnancy. Many times it is operated with a misdiagnosis of ruptured tubal ectopic pregnancy or hemorrhagic corpus luteum. The high-resolution transvaginal ultrasonography is a valuable tool for diagnosis of ectopic pregnancy but ovarian pregnancy still remains a diagnostic problem and a continuous challenge to the gynecologist. The correct diagnosis is made at the time of surgery and confirmation is by histopathological report. The case here presented was managed laparoscopically, and the diagnosis was based on surgical and histopathological findings.

Keywords: Ectopic pregnancy, laparoscopy, ovarian pregnancy

ÖZET:

Rüptüre ovarian gebelik ve laparoskopik yönetimi: Olgu sunumu

Ovarian gebelik, ektopik gebeliğin nadir bir formu olmasına karşın tubal dışında yerleşen ektopik gebeliklerin içinde en sık görülenidir. Sıklıkla rüptüre tubal ektopik gebelik ya da hemorajik korpus luteum kisti gibi yanlış ön tanılar ile hasta ameliyata alınır. Yüksek rezolüzyonlu transvajinal ultrasonografi ektopik gebelik tanısı için kıymetli bir tanı aracı olmakla beraber ovarian gebelik teşhisi jinekologlar için sorun olmaya devam etmektedir. Kesin tanı ameliyat sırasında konur ve histopatolojik olarak teyit edilir. Burada laparoskopik olarak yönetilen ve tanısı ameliyat sırasında bulguları ile histopatolojik olarak teyit edilen ovarian gebelik vakası sunulmaktadır.

Anahtar kelimeler: Ektopik gebelik, laparoskopi, ovarian gebelik

Ş.E.E.A.H. Tıp Bülteni 2016;50(4):334-7

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Date of receipt / Geliş tarihi:
October 12, 2015 / 12 Ekim 2015

Date of acceptance / Kabul tarihi:
November 23, 2015 / 23 Kasım 2015

INTRODUCTION

Ovarian pregnancy is one of the rare forms of ectopic pregnancy. One ovarian pregnancy occurs in every 7,000-16,000 pregnancies that occur naturally and this corresponds to about 1-3% of all ectopic pregnancies (1). Although the use of assisted reproductive technologies (ARTs) has increased the frequency of onset, it is still a rare condition. In the etiopathogenesis, the ovum is fertilized in the follicle or the fertilized ovum is implanted into the over-stroma by the tubal pathway (2). We present the preoperative ultrasonographic findings, surgical images and postoperative histopathological specimen of an ovarian pregnancy case who was diagnosed with intraabdominal bleeding and ruptured ectopic pregnancy and was performed conservative laparoscopic surgery.

CASE REPORT

A 37 year-old women who was married for nine years, was gravida 3, and has 2 alive children was admitted to our clinic with complaints of late menstrual period and severe groin pain. The examination of the patient who had regular menstrual periods and describing about 10 days of late menstrual period revealed a pulse rate of 106 beats/minute, arterial blood pressure of 80/50 mmHg, and rebound and tenderness. The laboratory

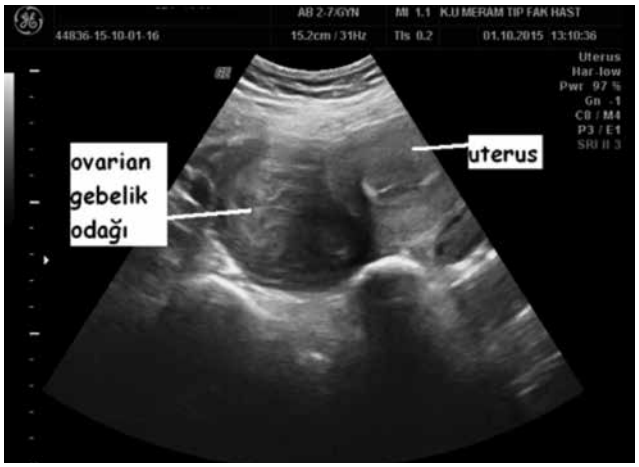

Figure-1: Ovarian pregnancy focus at the transvaginal ultrasound

tests performed revealed hemoglobin: 8.9 g/dl, hematocrit: 27.7%, ß-hCG: 503.3 mIU/ml. In the transvaginal ultrasound examination, intrauterine pregnancy was not observed and the endometrium thickness was 11 mm. A heterogeneous mass measuring 46x51 mm in size in the right adnexal region of the patient with unclear borders with ovary was detected, with free fluid in Douglas, anterior to uterus and in both adnexal regions (Figure-1). The color Doppler examination of this mass showed a very dense vascularization. There was no clear ring of fire sign. The patient underwent laparoscopy with preliminary diagnosis of ruptured ectopic pregnancy. The surgical observation showed approximately

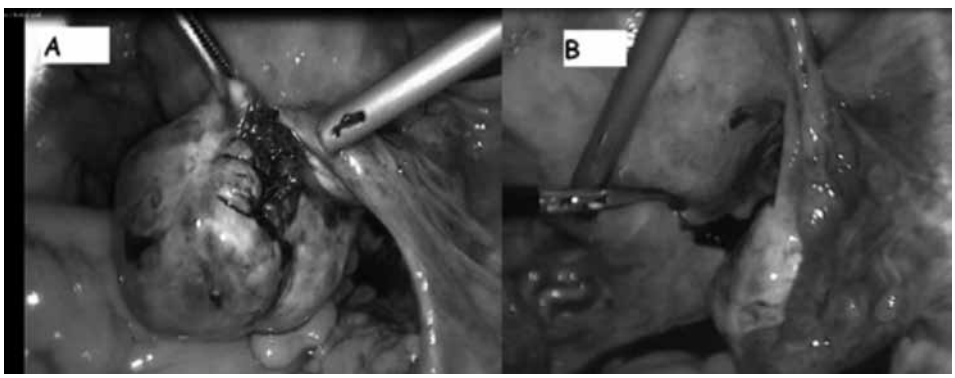

Figure-2: Bloody ovarian pregnancy mass in the right ovary with a size of 5x4 cm in the image taken during laparoscopy (A) and neighboring intact right uterine tube (B).

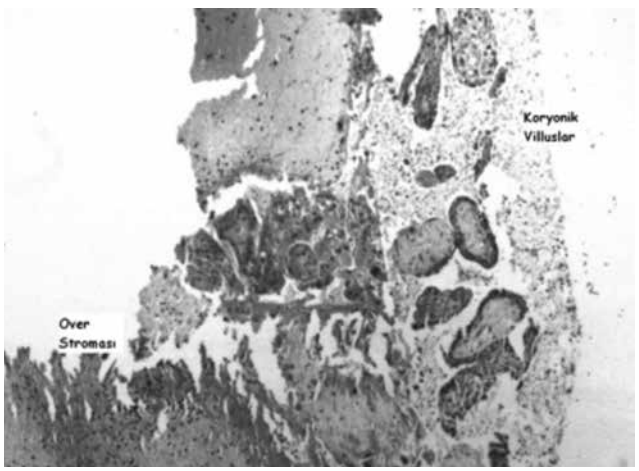

Figure-3: Villous structure and adjacent ovarian stroma at 4x magnification at the histopathological examination with Hematoxylin-Eosin stain

2000 ml of abdominal free defibrinated blood. When the uterus and adnexa were visualized after the aspiration of blood, both tubes were seen as normal (Figure-2). An ovarian mass which may be considered possibly an ectopic pregnancy, was found in the right ovary, with a size of 5x4 cm. Left ovary looked normal. The bloody mass was resected laparoscopically, which could be right ovarian pregnancy. After the hemostasis of the remaining ovarian tissue, the resected tissue was sent to the pathological examination. After the suspension of 2 units of erythrocyte delivered during surgery, hemoglobin was measured as 10.2 gr/dl and hematocrit as 29.9%. The patient with vital signs normal, was followed up for 2 days in the service. The ß-hCG measurement performed 48 hours after

the operation was 136.5 mIU/ml, so the patient was discharged at the second day postoperatively.

The histopathological examination of the patient with ß-hCG values <1.20 mIU/ml at 2 weeks postoperatively was reported as chorionic villi in fibroblastic cell populations, and ovarian pregnancy diagnosis was supported (Figure-3). Endometrial sampling showed a decidualized endometrium.

DISCUSSION

Ovarian pregnancy is a rare form of ectopic pregnancy. In general, ovarian pregnancy develops as a result of fertilization of the ovum in the ovary or as the implantation of the fertilized ovum secondary to ovary. For ovarian ectopic pregnancy development, except for classical risk factors, intrauterine device (IUD) use is more prominent. Other as-sociated risk factors include the use of ART, and history of endometriosis and pelvic inflammatory disease (2). In this case, there was spontaneous pregnancy, and none of these risk factors were seen.

Common clinical symptoms were abdominal pain and spotting vaginal bleeding. Although early quantitative serum ß-hCG measurements and pelvic ultrasonography has increased our ability to diagnose ectopic pregnancy, it is still difficult to establish the diagnosis of ovarian pregnancy prior to surgery. The clinical conditions that can be confused with ectopic pregnancy druing both ultrasonography and surgery are corpus luteum and corpus hemorrhagicum cysts (3). In our case, although the diagnosis was ectopic pregnancy preoperatively, it was understood during the operation that the ectopic pregnancy was localized in the ovary. The right ovary was ruptured and there was hemorrhage at the surgery, bilateral tubes and the opposite ovary were completely normal. The histopathology of the ovarian gestational sac resected confirmed ovarian pregnancy. Spigielberg (4), identified 4 criteris for differentiating primary ovarian ectopic pregnancy from distal tubal ectopic pregnancy and secondary ovarian ectopic pregnancy. However, this histopathological diagnosis is possible in patients who undergo extensive resection including the healthy ovarian tissue or in patents who undergo oophorectomy. In our case, it was not possible to determine the classical Spigielberg criteria, and an area compatible with the ovarian stroma, adjacent to the villi was photographed at the histopathological examination. Fort his reason, it was not possible to distinguish if our ovarian pregnancy case was primary or secondary.

The ovarian ectopic pregnancies developed after ARTs, however, are the result of embryo implantation secondarily to the ovary. The reason for this type of implantation may be that ultrasound-guided embryo transfer may not be done, transfer deeply to the uteine cavity (5), transfer of large volume of culture medium (6) or all three.

The first-choice treatment to be performed in the early-diagnosed ovarian pregnancies should be a conservative surgical approach, considering the probable future desire for fertility. Medical treatment approaches such as methotrexate for ovarian pregnancies should be considered only in the presence of persistent trophoblastic tissue after surgery. However,oophorectomy may be needed instead of conservative surgery to provide bleeding control in the case of larger ovarian ectopic pregnancies that have extensively destroyed the ovary. Despite severe intraabdominal hemorrhage in this patient, the ovarian ectopic pregnancy focus could be completely removed by laparoscopic method and both ipsilateral tuba uterine and a significant amount of residual ovarian tissue could be preserved.

Although ovarian pregnancy is a rare form of ectopic pregancies, its diagnosis may affect the future fertility capacity more negatively than tubal ectopic pregnancies. For this reason, the diagnosis of ovarian pregnancies and the protection of ovary with conservative surgical approach is crucial. Hemorrhage in these patients should not be counted as a contraindication for laparoscopy, as long as the vital signs are stable.

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