# Spontaneous Ovarian Pregnancy and Over Protective Management: A Case Report

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We aimed to present a case of primary ovarian pregnancy in a 31-year-old patient who presented to the emergency room with symptoms and signs of acute abdomen and positive beta HCG test. A gestation sac of 6 weeks was detected in the right ovary by transvaginal sonography. Emergency laparotomy and extirpation of the ectopic tissue was performed.

Key Words: Ectopic, Pregnancy, Ovarian

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#### Introduction

Ovarian ectopic pregnancy (OEP) is a seldom presentation of ectopic gestation. The gestational sac is implanted inside the ovary. It constitutes 0.15% of all pregnancies and 0.15-3% of ectopic pregnancies. The use of assisted reproductive technology (ART) procedures and intrauterine devices is the two most important risk factors for OEP. It ruptures before the end of the first trimester. Its presentation is often similar to tubal ectopic pregnancy and hemorrhagic ovarian cyst. Although treatment of OEP has slanted to laparoscopy, laporotomy can be performed due to hemodinamic instability. We report a case of ruptured OEP, which was operated through abdominal route successfully.

### **Case Report**

A 24-year-old female, with 45 days' amenorrhea, complained of severe pain of sudden onset, in the right iliac fossa and suprapubic region was presented to our tertiary care hospital. The pain was present for 3 days and was associated with vomiting, fainting, difficulty in micturition and defecation. No associated vaginal bleeding was observed. She was learnt to have cesarean section with a healthy term infant two years ago, in her past medical history. No contraceptive agent had

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been used by her. She had regular cycles with normal hormonal profile. Clinically, she was pale with the pulse of 88/minute and the blood pressure of 90/60 mm Hg. The abdomen was slightly distended and both the iliac fossae were tender. A transvaginal ultrasound scan revealed a mass of 6.5 x 4.5 cm containing a gestational sac of 7 weeks lateral to the right ovary and free fluid in around the right ovary and the pouch of Douglas. There was no evidence of an intrauterine gestational sac. A preoperative diagnosis of ovarian ectopic pregnancy was made. Laparotomy under regional anesthesia was performed. There was seen a right ovarian ectopic pregnancy and free fluid in abdominal cavity (Figure 1). The placental tissue and blood clots surrounding the sac were seen grossly beneath the ovarian stroma. A 2 cm embryo was detected in the sac. The fallopian tubes showed no evidence of any products of conception. The ovarian tissue microscopically showed ovarian stroma, corpus luteum and products of conception. There was 500 cc haemoperitoneum. The uterus was normal. Both fallopian tubes had normal appearance and both were separate from the ectopic pregnancy (Figure 1).



Figure 1: A: The curved arrow indicates intact fallopian tube and straight arrow indicates ovarian ectopic pregnancy. B: straight arrow indicates ruptured ovarian ectopic pregnancy from antimesenteric side.

The ovary was grasped and the ectopic was dissected from the ovary with sharp as well as blunt dissection. Homeostasis was secured with electrocautery. The ovarian remnants were reconstructed by no 3/0 vicryl suture. There was observed embryo with incision of ectopic pregnancy mass (Figure 2). The post-operative period was uneventful. She was discharged on the third post-operative day. Histopathologic examination of the specimen was reported as OEP.

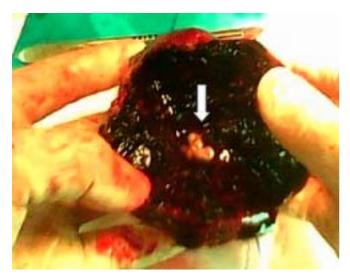


Figure 2: The image of embryo within the ectopic mass

#### **Discussion**

Ovarian ectopic pregnancy is a rare presentation of ectopic implantation. Reports vary from one in 2.100 pregnancies to one in 60.000, making ovarian pregnancy 1 to 3% of all ectopic pregnancies.4 Risk factors include previous pelvic inflammatory disease, IUD use, endometriosis, and assisted reproductive technologies.<sup>4,5</sup> Recently, the incidence of ovarian pregnancies increased probably due to artificial factors such as assisted reproductive techniques and common use of IUDs in contraception. None of the risk factors were present in our patient's medical history. She was learnt to get pregnant spontaneously. But her previous cesarean section may be encountered as the main risk factor which altered her tuboovarian functions leading to ectopic implantation.

The ovarian mass, detected during the laparotomy in our case, had the following qualities; 1: fallopian tubes, including fimbria, must be intact and separate from the ovary, 2: the pregnancy must occupy the normal position of the ovary, 3: the ovary must be attached to the uterus through the uteroovarian ligament, and 4: there must be ovarian tissue attached to the pregnancy in the specimen. All these features of our case met The Spiegelberg.s Criteria for ovarian pregnancy.6 Today, diagnosis routinely is made by ultrasound appearance of a wide echogenic ring on the ovary, frequently with a yolk sac or fetal parts.4 Ovarian pregnancies are often confused with corpus luteum cysts.<sup>5-7</sup> Ovarian pregnancy on sonography is typically described as a wide echogenic ring with a small internal

echolucent area on the surface or within the substance of the ovary, the echogenicity of the ring usually being greater than the ovary.8 A high degree of suspicion is needed to make accurate diagnosis. OEP occurs in fertile patients; however tubal ectopic pregnancy is more frequently associated with impaired fertility.9 Patients with ovarian pregnancy usually presented after rupture of the gestational sac with intraperitoneal hemorrhage before transvaginal ultrasonography and serial measurement of serum human chorionic gonadotrophin beta subunit were widely used. Due to the increased vascularity of the ovarian tissue it was common to sustain massive hemorrhage with rapid circulatory collapse. These patients usually underwent oophorectomy.<sup>10</sup> Early detection of an ovarian pregnancy prior to rupture of the gestational sac and onset of active bleeding permits laparoscopic surgery and removal of the ectopic pregnancy without excessive removal of healthy ovarian tissue. This is especially important in young patients who may desire to maintain their reproductive capability.<sup>2</sup>

Diagnostic surgical intervention is frequently required to make the diagnosis of ovarian pregnancy, which is only later confirmed by histologic examination of removed tissue.<sup>7</sup> Laparoscopy remains the gold standard for diagnosis as well as treatment of ovarian pregnancy. Because of some technical issues, emergency laparoscopy is not available in our hospital; laparotomy was performed in our case. Medical management with methotrexate has been reported but may not be feasible; laparoscopy often plays a key role in diagnosis. Methotrexate may be an option if there is persistent trophoblastic tissue after laparoscopy.5

As result of, ectopic pregnancy is one of the frequent gynecological emergencies that is potentially life threatening. Ectopic pregnancies in unusual location are reported much less frequently, having higher morbidity and mortality. The use of advanced ultrasonography with serial serum β-hCG measurements is helpful in early diagnosis and the most accurate management procedure. As the ovaries of our case were preserved, the treatment modality (either medical or surgical; less frequently combination of both) should be selected considering the future fertility desire in such patients.

## Spontan Overyan Gebelik ve Over Koruyucu Tedavi: Olgu Sunumu

Otuzbir yaşında, akut abdomen semptom ve bulgularıyla acil kliniğimize başvuran ve beta HCG sonucu pozitif olan primer ovaryan ektopik gebeliği mevcut olguyu sunmayı amaçladık. Transvajinal ultrasonografi ile sağ overde 6 haftalık gestasyonel sak ile uyumlu görüntü izlendi. Acil laparotomi ve ektopik gebelik kitlesi çıkarıldı.

Anahtar Kelimeler: Ektopik, Gebelik, Ovaryan

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