

## OLGU SUNUMU

## A Twelve Week Ruptured Interstitial Ectopic Pregnancy

### 12 Haftalık Rüptüre İnterstisyel Ektopik Gebelik

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**Abstract:** Despite advancements in management and diagnosis, a ruptured ectopic pregnancy is still a major reason for pregnancy-related mortality and morbidity for the first trimester. 2% of all pregnancies are ectopic pregnancy, and the interstitial ectopic pregnancy rate is 2-4% among all ectopic pregnancies. We should consider it as an essential characteristic in each female of reproductive age that presents with the triad of amenorrhoea, unusual vaginal bleeding, and abdominal irritation. Interstitial ectopic pregnancy ruptures at a more sophisticated stage of gestation when compared with ectopic tubal pregnancy. Bleeding in interstitial ectopic pregnancy rupture is above that other ectopic pregnancies; also, it is life-threatening. Interstitial ectopic pregnancy rupture is two to five times greater compared to the maternal mortality rate than tubal ectopic pregnancy rupture. Developing a gestational sac causes uterine disruption and following hemorrhagic shock, resulting in morbidity and mortality. To reduce maternal mortality should be much more concerned about the convenient disclosure of this abnormal pregnancy condition. In this article, we report the twelve-week interstitial ectopic pregnancy case and the management approach that applied to our emergency department with the symptoms of acute hemorrhagic shock, vaginal bleeding, and acute abdomen.

**Keywords:** Interstitial Pregnancy, cornual ectopic pregnancy, cornual resection, surgery procedures

**Özet:** Tedavi ve tanıdaki ilerlemelere rağmen, rüptüre ektopik gebelik ilk trimesterde gebelikle ilişkili mortalite ve morbiditenin halen önemli bir nedendir. Tüm gebeliklerin %2'si ektopik gebeliklerdir ve interstisyel ektopik gebelik oranı, tüm ektopik gebelikler arasında %2-4'tür. Üreme çağındaki her kadın için; amenore, olağandışı vajinal kanama ve karın ağrısı üçlüsü ile ortaya çıkan temel bir özellik olarak göz önünde bulundurmalıyız. İnterstisyel ektopik gebelik, tubal ektopik gebelikle karşılaştırıldığında daha ileri bir gebelik evresinde yırtılır. İnterstisyel ektopik gebelik rüptüründe kanama, diğer ektopik gebeliklere göre fazla ve aynı zamanda yaşamı tehdit eden boyutlardadır. İnterstisyel ektopik gebelik rüptüründe anne ölüm oranı, tubal ektopik gebelik rüptürüne nazaran iki ile beş kat daha fazladır. Büyüyen gebelik kesesi, uterusun rüptürüne ve bunu takip eden hemorajik şoka neden olarak morbidite ve mortaliteyi artırır. Maternal mortaliteyi azaltmak için, bu anormal gebelik durumunun tespiti konusunda daha dikkatli olunmalıdır. Bu yazıda, akut hemorajik şok, vajinal kanama ve akut batin semptomları ile acil servisimize başvuran on iki haftalık interstisyel ektopik gebelik olgusu ve tedavi yaklaşımını sunuyoruz.

**Anahtar Kelimeler:** interstisyel gebelik, kornual ektopik gebelik, kornual rezeksiyon, operasyon teknikleri

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Informed consent was obtained from the participants and Helsinki Declaration rules were followed to conduct this study.

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## 1. INTRODUCTION

This interstitial part of the fallopian duct extending into the uterus is 0,7 millimeters wide and 2 centimeters long and allows more growth and enlargement capability on a gestational week basis than other tubal ectopic pregnancies before disruption (1). For this crucial reason, the interstitial pregnancy could remain asymptomatic until 7-16 weeks of gestation (2). Early detection and an impressive index of suspicion are essential to reducing mortality and morbidity (3). Among the disposing circumstances leading to interstitial ectopic pregnancy, an early story of ectopic pregnancy, ipsilateral salpingectomy, assisted reproductive procedures, and pregnancy story can be regarded (4). A transvaginal ultrasound scan is important for the first diagnosing of interstitial pregnancy. To diagnose interstitial ectopic pregnancy ultra-sonographically; "(i) a clear endometrial cavity, (ii) separate from the uterine cavity and at least 1 centimeter away and close to the lateral outer edge of the uterus, and (iii) It should be a thin myometrial tissue below 5 millimeters surrounding the gestational sac" (5). Interstitial line sign; In the uterine horn, the image of the fallopian tube surrounding the gestational sac above the intramural component (6,7). As a result of all these, early diagnosis of interstitial pregnancy becomes difficult if it goes unnoticed (3). If it is interfered late, it ruptures and causes intense intraabdominal bleeding (3). Therefore, it has an importance that differs from other tubal ectopic pregnancies as a result of the endangered life of the mother due to hemorrhagic shock (3). Looking at the 2.5% death rate, early finding is vital (8).

## 2. CASE

A 31-year-old, gravida 3, parity 0, abortion 2 at twelve weeks, gestation presented to the emergency department of Adana City Education and Research Hospital in Turkey. The patient has earlier received IVF (in vitro fertilization) treatment twice and also resulted in abortion. In this pregnancy of the patient, she conceived without assisted reproductive techniques. She mentioned the final menstrual period as of January 10, 2020. There was no specific situation in the medical, psychosocial, and family history of the patient.

When the patient was brought into our emergency room, her general condition was moderate, her skin was moist and pale, and her consciousness was confused. She'd feel intense abdominal tenderness with vaginal bleeding. In the abdominal examination, particularly in the lower quadrants, defense, sensitivity, and rebound had been determined. Gynecological evaluation of the cervix

uteri moves was very painful, and also the uterus was bigger than regular, with a doubtful fullness and tenderness on the proper side. Arterial Blood Pressure: 90/60 mm Hg, heartbeat rate 100 /min., fever 36,5°C. In lab tests; Hemoglobin: 8.5 g/dl, Hct: 24.5%, WBC: 10100 / $\mu$ l, beta-human chorionic gonadotropin ( $\beta$ -HCG) 52520 IU/L. Transvaginal ultrasonography showed a viable eleven-week six days pregnancy, visualized laterally extrauterine cavity, and thus there's almost 1 liter of free pelvic fluid and hemoperitoneum (Figure 1).

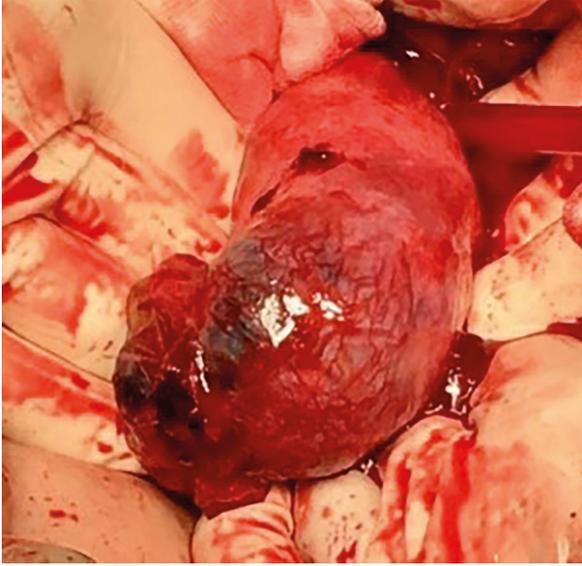


**Figure 1.** Transabdominal Ultrasound interstitial pregnancy localization and gestational week.

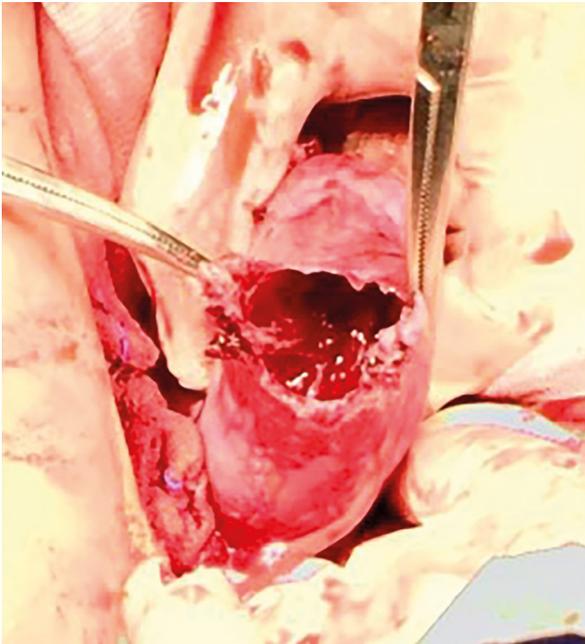
There have been absences and asymmetric thinning of the myometrium that surround the gestational sac. Endometrium was separate from the ectopic gestation. We urgently operated the patient on these findings. We entered the abdomen through a Pfannenstiel incision. The peritoneum was filled with 2000 ml of fresh blood and clots. After we drained the intraabdominal fluid, we observed the uterus and adnexa. Both ovaries and tubes appeared normal. There was approximately 10 cm mass in the uterus right cornual area (Figure 2).

In the right cornual region of the uterus, there was an intact gestational sac with rupture and active bleeding compatible with the interstitial space. The twelve-week old fetus and placental material removed from the ruptured area (Figure 3,4).

The bleeding was controlled with emergent clamping at the ruptured myometrial site and about 10 cm of the myometrial defect sutured in two layers via continuous suturing. The ovaries and tubes were untouched. Pathology judged the fetus to be 11 to 12 weeks based on skeletal parameters (Figure 5)



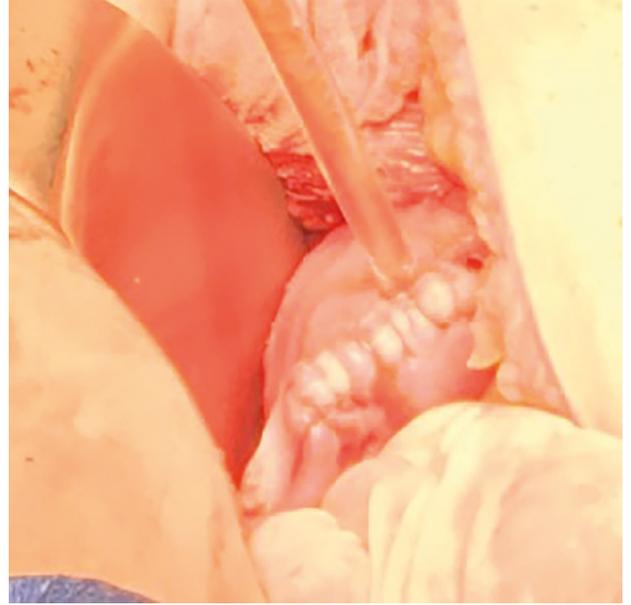
**Figure 2.** Ruptured ectopic pregnancy with an interstitial region on the right.



**Figure 3.** Cornual appearance after resection.



**Figure 4.** Fetus.



**Figure 5.** Approximately 10 cm of the myometrial defect sutured in two layers..

We performed perioperative two units of blood transfusion. Postoperative hourly amounts of urine output, arterial blood pressure, and pulse tracking were normal. We discharged the patient who did not develop postoperative complications on the fourth day with surgical recovery.

### **Ethical Declaration**

Informed consent was obtained from the participants and Helsinki Declaration rules were followed to conduct this study.

### **3. DISCUSSION**

Interstitial Ectopic Pregnancy (IEP), which is among the early obstetric emergencies, is defined by a gestational sac extending inside the uterine myometrial layer of the proximal segment of the uterine tube (1,8,9). The interstitial component of the tube is tortuous, proximately 1-2 cm, and 0.7 mm broad, encompassed by the myometrium, and also has a vast blood supply from ovarian vessels and the uterine.

You can find different medical and surgical treatments for interstitial pregnancies. Treatment options hinge on the gestational age at analysis, whether the interstitial pregnancies ruptured or perhaps even intact, so the patient's wish for succeeding fertility. We can apply minimally invasive surgery and also nonsurgical treatments for intact interstitial pregnancies. A ruptured interstitial pregnancy requires emergent medical treatment with whether laparotomy or laparoscopy (10).

Expectant management included by nonsurgical treatment, systemic methotrexate (MTX) administration, along with local MTX injection. The traditional treatment phase is lengthy, it takes an extended hospitalization resulting in a high-cost and disability, and the danger of rupture persists during therapy (10)

Laparoscopic cornuotomy is a new technique for eliminating the gestational sac and cells without eliminating the surrounding myometrium. During this procedure, the ectopic focus was removed through the incision made with a scalpel at the thinnest part of the uterine wall (10). After the pregnancy product and placental tissues are cleaned, the cornual region sutured while preserving the integrity of myometrial tissue (10). Wang et al. (38 cases) Watanabe and also et al. (thirteen cases) reported therapy results of laparoscopic cornuotomy in an enormous series, with absolutely no uterine rupture within the coming pregnancies (11). Watanabe et al. described thirteen cases of cornuotomy, which were treated with no complications (12). Lee et al. reviewed seventy-five individuals with IP that have been treated by laparoscopy (11). They observed that laparoscopic cornuotomy produced surgical results quite similar to all cornual resection results (11). While laparoscopic cornuotomy can decrease the processing time, the rate of interstitial pregnancy showing persistence may be the same as cornual resection (11). Therefore, cornual repair or cornuostomy is a pleasant choice, but we recommend regular monitoring of hCG amounts is after surgery, along with MTX can be used in case chronic conditions suspected and confirmed (10).

In conclusion, there's practically any unanimity on the strongest health-associated procedure for interstitial pregnancy (6). Minimal invasive surgeries, for example, laparoscopic excision, hysteroscopic excision, curettage, or suction dilation under the support of laparoscopy, transabdominal ultrasound, or hysteroscopy had been used a field more regular (6). From our target of viewpoint, trained surgeons may conclude these approaches in hemodynamically stable people without proof of uterine rupture (6). We should counsel individuals about the chances of uterine rupture, severe demand and hemorrhage for hysterectomy and laparotomy.

Here report, we wanted to report that a 12-week ruptured interstitial ectopic pregnancy patient admitted to our hospital with intense bleeding in the abdomen and successfully treated with cornual segmental resection. In the case of the laparoscopic approach is not an alternative method for an inexperienced surgeon, laparotomy remains an appropriate opportunity for interstitial ectopic pregnancies with extensive intra-abdominal bleeding (13).

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