

### MANAGEMENT OF A 12-WEEK INTERSTITIAL PREGNANCY

Özlem Gün ERYILMAZ, Selen Taflan YAMAN, Serra AKAR, Hüseyin YEŞİLYURT, Gülnur ÖZAKŞIT  
Zekai Tahir Burak Women Education and Research Hospital, Ankara  
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#### Summary

*Interstitial pregnancy (cornial) is a rare kind of extra-tubal ectopic pregnancy. Morbidity of this kind of ectopic has been decreasing in recent years with respect to the fertility sparing techniques and minimal invasive surgeries. In this case report, a 31 year-old women presented to the emergency department with severe abdominal pain, minimal vaginal bleeding and passed last menstrual period. After diagnostic examinations, a 12 gestational week cornial pregnancy was diagnosed. During laparotomy, pregnancy materials in the corneal region was collected via primary incision and closed with again primary suturing technique. Early complications did not occurred. Uterus sparing techniques in cornial pregnancies have been developed which are very important for the future fertility.*

**Key Words:** Ectopic pregnancy, cornial pregnancy

#### Özet

*Ekstra-tubal gebelikler içinde, interstisyel (kornual) gebelik, oldukça nadir görülür. Son yıllarda, uterusu koruyucu ve minimal cerrahi yaklaşımlarla, morbiditesi oldukça azalmıştır. 31 yaşında, şiddetli karın ağrısı, vajinal kanama ve adet gecikmesi şikayetleri ile başvuran hasta, tanısal değerlendirmeler sonrası 12 gestasyonel haftalık kornual gebelik tanısı aldı. Hasta, laparotomiye alındı, kornual bölgeden yapılan insizyon ile gebelik materyali boşaltıldı ve primer suture edildi. Erken komplikasyon gelişmedi. Kornual gebeliklerde, histerektomiye alternatif yöntemler gelişmiştir. Başta uterus olmak üzere, organ koruyucu yaklaşımlar, fertilitate devamlılığı açısından önemlidir.*

**Anahtar Kelimeler:** Ektopik gebelik, kornual gebelik

#### Case

A 31 year-old, gravida 3, parity 3 at 12 week's gestation presented to the emergency department of Zekai Tahir Burak Women Education and Research Hospital in Ankara, Turkey. She had severe abdominal pain with minimal vaginal bleeding. It was an intended, spontaneous pregnancy, and the routine obstetric follow-up performed 3 weeks earlier, showed an unremarkable ongoing pregnancy. She had mild abdominal pain recently, but it became worse two days before her arrival to the emergency department.

Pelvic examination showed acute abdominal signs, and transvaginal ultrasonography showed a viable 12-week pregnancy, visualized laterally in the uterine cavity. There was nearly one liter of hemoperitonium.

Ectopic pregnancy remains one of the most common causes of pregnancy-related deaths (1), and maternal mortality rate is higher in the rarely seen extra-tubal nidations of ectopic pregnancies such as interstitial (cornial), ovarian, cervical, or abdominal pregnancies.

Interstitial pregnancy is defined as a gestation developing in the uterine portion of the fallopian tube lateral to the round ligament (2). The prevalence is 2-4% in all ectopic pregnancies. Maternal mortality due to interstitial pregnancy is about 2-2.5% (4).



**Figure 1** Transvaginal ultrasound depicting hemoperitonium and interstitial pregnancy

One hour later, a laparotomy was done. The inspection of the uterus showed an enlarged unruptured right cornua. Both ovaries and tubes appeared normal. The peritoneum was filled with 1500 ml of fresh blood and clots. Uterus was carried outside the abdomen and this procedure was accompanied by rupture of the cornual myometrium. The fetus then protruded from the cavity



**Figure 2** Laparotomy findings of interstitial pregnancy. Approximately 15 cm of myometrial defect was sutured in two layers.

Bleeding was controlled with emergent clamping at the ruptured myometrial site and about 15 cm of myometrial defect was immediately sutured in two layers via continuous suturing (Figure 3). The ovaries and tubes were untouched.

## Discussion

Interstitial (cornual) pregnancy is a rare form of ectopic pregnancy, accounting for 2-4% of all ectopic pregnancies. Its mortality is higher than tubal ectopic pregnancies. Even with the advances in diagnostic techniques like biochemical markers and sonography, its diagnosis is still difficult to make preoperatively (3) and the maternal mortality is nearly 2-2.5% (4).

The most common risk factors are previous pelvic inflammatory disease, prior pelvic surgery, surgery for previous ectopic pregnancy and smoking (5). This patient did not have any of the above mentioned risk factors; she had not undergone any type of surgery, was not a smoker and intraoperative inspection showed a normal pelvis. Her condition might be explained by an incomplete rupture of the cornual site in one of the previous three pregnancies.

The interstitial part of the fallopian tube is surrounded by a rich muscular layer, so the distensibility allows the ectopic pregnancy to reach a later gestational age. In this case, the 12-week fetus was viable, showing normal amount of amniotic fluid, and the myometrial surrounding was intact, but was thinner than usual (Figure1). The first inspection of the uterus showed an intact, unruptured cornual region, but it ruptured while taking the uterus outside the abdomen. The amount of bleeding is estimated as 2-5 times higher with cornual pregnancies because of the richness of the vessels originating from the uterine and ovarian arteries at the implantation site (6), but in this case, the hemorrhage was interestingly less following the rupture. This may be due to the eccentric location of the fetus and thin myometrium, which did not affect the contractility of the cornual region.

The unremarkable obstetrical follow-up of this patient in early weeks indicates the difficulties in diagnosing interstitial ectopic pregnancies. The interstitial pregnancy was easier to diagnose at 12 weeks, because the location of the fetus away from the endometrium was clearly seen. This free endometrial appearance is described in Ackerman's study as the interstitial endometrial line, and is reported to have 80 % sensitivity and 98 % specificity for the diagnosis of interstitial ectopic pregnancy (7).

Surgery is the classical treatment for interstitial ectopic pregnancy. Even though the conservative laparoscopic approach is more commonly used, hysterectomy or cornual resection is still the most frequently employed technique in the management of such patients. This patient presented with an unruptured uterus, but the advanced gestational week led to a laparotomy. Minimal bleeding from the affected cornual region is not common and may be caused by the very thin layer of the myometrium over the affected cornual area.

Conservation of the uterus raises concerns such as uterine rupture in future pregnancies or labors. Also, infertility may ensue due to the destruction of the cornual part of the fallopian tube and the adhesions of both intra- and extra-uterine portions.

Interstitial ectopic pregnancy may be misdiagnosed as a normal pregnancy, so any suspicious lateral or fundal location of a gestational sac, especially in pregnancies

resulting from assisted reproductive techniques must be examined in greater detail even in asymptomatic patients. This suspicion may be both life- and fertility-saving.

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**Sorumlu Yazar:** Dr. Özlem GÜNERİYILMAZ

Zekai Tahir Burak Women Education and Research Hospital,  
ANKARA

Talatpaşa Bulvarı Hamamönü- Altındağ/ ANKARA 06230

Tel: 0533 744 89 41

Email: drozlemgun@yahoo.com