

# Interstitial Ectopic Pregnancy Report of Four Cases

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The aim of the present case series is to describe clinical presentation and ultrasonographic appearances observed in this rare form of ectopic pregnancy.

We present 4 cases of interstitial ectopic pregnancy which were treated surgically at our institute over one year period.

Interstitial pregnancy is a rare form of ectopic pregnancy which carries a higher risk of morbidity and mortality due to catastrophic hemorrhage. Early diagnosis is mandatory for management of this potentially fatal condition and a high index of suspicion is essential for early diagnosis.

**Key Words:** Interstitial pregnancy, Ultrasonography, Clinical presentation

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## Introduction

Interstitial ectopic pregnancy is a rare condition that accounts for no more than 2-4 % of all tubal pregnancies.<sup>1</sup> It may cause catastrophic bleeding due to the unique location at the most richly vascularised area of the female pelvis, the junction of the uterine and ovarian vessels, and this often causes serious morbidity and mortality.<sup>1</sup> It is usually diagnosed late with complications such as uterine rupture, leading to massive hemorrhage or even shock. Advances in ultrasonography and the widespread use of  $\beta$ -HCG testing have enabled us to early diagnosis of interstitial ectopic pregnancies and this has led to a tendency to treat this condition more conservatively.

Cornual and interstitial are terms that are usually used interchangeably.<sup>2</sup> We will use the term interstitial ectopic pregnancy to describe a pregnancy developing in the interstitial part of the fallopian tube.

In this report we present 4 cases of interstitial ectopic pregnancy especially from the point of view about clinical presentation and ultrasonographic appearances.

## Case 1

A 33 years old multiparous woman presented with 10 weeks of amenorrhea, vaginal spotting and abdominal pain. Quantitative  $\beta$ -HCG value was 20235 IU/L. Transvaginal ul-

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trasonography revealed a gestational sac with a mean diameter of 22 mm. containing a fetal pole without cardiac activity and interstitial line sign was seen (Figure 1). The patient elected to be managed by primary surgery and left cornual resection was performed. The patient was discharged from hospital after an uncomplicated course of four days hospital stay.



*Figure 1: The ultrasonographic appearance of empty endometrial cavity and ectopic location of gestational material on the interstitium*

## Case 2

A multiparous 35 years old woman presented to the emergency department with 9 weeks of amenorrhea and intractable left iliac pain. Her quantitative  $\beta$ -HCG was 11841 IU/L and transvaginal ultrasonography revealed a ruptured ectopic pregnancy signs with intraperitoneal free fluid. She underwent an emergency laparotomy and resection of the left corn of the uterus was performed. The patient needed two packs of red blood cells intraoperatively. The patient was discharged at the end of a hospital stay of 4 days.

### Case 3

A 30 years old multiparous woman presented to the pregnancy assessment unit with a positive urine  $\beta$ -HCG and several days of vaginal spotting 10 weeks following her last menstrual period. Quantitative  $\beta$ -HCG was 55104 IU/L and on transvaginal ultrasonography, a gestational sac, containing a fetal pole without cardiac activity, located in right cornual region was seen. The patient elected for primary surgical treatment via laparotomy and right cornual resection was performed. The patient was discharged from hospital on postoperative day 3, following an uncomplicated course of hospital stay.

### Case 4

A 37 years old woman admitted to the hospital with 8 weeks of amenorrhea and vaginal spotting.  $\beta$ -HCG value was 9010 IU/L. On transvaginal ultrasonography a fetal pole without cardiac activity and minimal intraperitoneal free fluid was seen. She was misdiagnosed as missed abortus and D&C was performed. On the following day, the patient underwent an emergency laparotomy due to the development of acute abdominal signs. A right cornual ruptured ectopic pregnancy was seen and resected. The patient was discharged at the end of 3 days with no complications.

### Discussion

Ectopic pregnancy is a significant cause of maternal mortality and morbidity. In recent years earlier diagnosis and more experience in treatment have reduced present mortality in all types of ectopic pregnancy.

Most of the same risk factors for ectopic pregnancy are similar to those for interstitial ectopic pregnancy including use of artificial reproductive technologies (ART), previous pelvic surgery and pelvic inflammatory disease history. Ipsilateral salpingectomy may be a unique risk factor for interstitial ectopic pregnancy occurring in 25 % of patients.<sup>1</sup> Interestingly none of our patients had any recognised risk factor for interstitial pregnancy.

Early detection of interstitial pregnancy is essential to maximize use of conservative methods for management. However diagnosis of interstitial pregnancy can be difficult. There are specific sonographic features enabling the diagnosis of this rare condition. Eccentric positioning of the gestational sac, thinning of the myometrial mantle surrounding the sac to less than 5 mm, and the interstitial line sign which is an echogenic line extending from the endometrial canal up to the cornual sac or hemorrhagic mass, have been described as sonographic features.<sup>3,4,5</sup> Between our cases, in two cases (case 1, 3) there was sonographic features of interstitial ec-

topic pregnancy.

Interstitial ectopic pregnancy is a rare type of ectopic pregnancy that may cause catastrophic bleeding due to its location. It is usually diagnosed late with complications such as uterine rupture, leading to massive hemorrhage or even shock. Clinical presentation of all types of ectopic pregnancies is similar.<sup>1</sup> Within our cases only one case (case 2) presented with acute abdominal signs and operated emergently, other cases were presented only with menstrual delay and spotting. A high index of suspicion is essential, combined with meticulous review of clinical findings and imaging modalities to make an accurate diagnosis. Differential diagnosis is also important. In our cases, case 4 was misdiagnosed as missed abortion and treated accordingly but after development of acute abdominal signs she underwent emergency laparotomy and ruptured cornual ectopic pregnancy realized thereafter.

The choice of treatment depends on the stability of patient's condition and on the interest of the patient in preserving her reproductive function. Surgery will be the choice if the patient is hemodynamically unstable, the  $\beta$ -HCG is over 10000 IU/L or the gestational sac is greater than 4 cm in diameter.<sup>6</sup> Systemic or local methotrexate is the most widely used agent for nonsurgical treatment. Methotrexate can be given either systemically or locally or a combination of both.<sup>7</sup> The advances in minimal access techniques and imaging modalities have resulted in novel fertility preserving endoscopic procedures.<sup>8</sup> Treatment with the least invasive method, either by minimal access techniques, non-invasive radiological procedures or medical treatment should be encouraged.

### Conclusion

Early recognition of interstitial pregnancy is mandatory to treat this potentially life threatening condition. Availability of early pregnancy assessment units, transvaginal ultrasound examinations undertaken by experienced sonographers, widespread use of quantitative  $\beta$ -HCG testing and a high index of suspicion are essential for early and accurate diagnosis. When a diagnosis is made, treatment must be individualized and the patient must be appropriately informed about treatment options and possible morbidities.

### İnterstisyel Ektopik Gebelik: Olgu Sunumları

Kliniğimize başvuran ve dış gebeliğin nadir bir formu olan interstisyel gebelik tanısı alan 4 hastanın klinik ve ultrasonografik tablolarını literatür eşliğinde tartışmak.

Kliniğimizde bir yıl içinde cerrahi olarak tedavi edilen 4 vaka sunulmuştur.

İnterstisyel gebelik dış gebeliklerin nadir bir formu olup aşırı kanama artmış morbidite ve mortalite sebebidir. Erken teşhis bu potansiyel olarak ölümcül olabilen durumun yönetimi için

şarttır ve erken tanı için de bu durumu akılda tutup şüphelenmek gereklidir.

**Anahtar Kelimeler:** Interstisyel gebelik, Ultrason, Klinik prezentasyon

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