



# Unruptured Live Ectopic Pregnancy at 11 Weeks of Gestation

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## Abstract

Ectopic pregnancy is defined as the implantation of a fertilized ovum at a site other than the uterine endometrium. The fallopian tube is the most common site for ectopic implantation. Diagnosis is clinically based on a history of pelvic pain associated with amenorrhea and a positive pregnancy test result with or without slight vaginal bleeding. Ectopic pregnancies account for 10%–15% of all maternal deaths. The prevention of tubal rupture before its occurrence is extremely important. An early diagnosis can be made by performing a transvaginal ultrasound examination and measuring human chorionic gonadotropin levels. However, a definitive diagnosis is made after performing a surgery and microscopic examination of tissue specimens. The main treatment options for tubal ectopic pregnancies are surgery or systemic medical treatment with methotrexate. We present the case of a 26-year-old woman with unruptured 11 weeks of gestation with fetal heart beat-positive tubal ectopic pregnancy. We performed laparoscopic salpingectomy. A histopathological examination of the tissue specimens revealed tubal ectopic pregnancy.

**Keywords:** Ectopic pregnancy, tubal rupture, laparoscopy

## Introduction

Ectopic pregnancy is a complication of pregnancy in which the pregnancy implants outside the uterine cavity. The fallopian tubes are the regions where implantation mostly occurs, but it can also occur in the cervix, ovaries, and abdomen. Ectopic pregnancy can be detected at an earlier stage due to enhanced diagnostic capabilities. As pregnancy progresses, tubal rupture occurs mostly due to the inability of the distention of tubal tissues. Damage to the mother is minimal because of early diagnosis and enhanced surgical techniques.

## Case Report

A 26-year-old woman was admitted to our clinic with pain in the pelvic region that had developed acutely. She had no pregnancy. Her medical and family histories were unremarkable. Her menstrual cycle was regular, and her last menstrual period was 5 weeks ago. However, her last menstrual bleeding was different from her earlier menses. It was light in amount and short in duration. She did not have vaginal bleeding or pain until that time.

She had pain in her lower abdominal quadrants. Apart from this, her vital signs and physical examination results was normal.

Her transvaginal ultrasound examination showed a right adnexial mass that was suitable with an unruptured ectopic pregnancy (Figure 1). In the gestational sac located in the ampullary region of the fallopian tube, a fetus was measured as 10 weeks 3 days. The fetal heart beat was positive. Left adnexa was observed normally. The endometrium was 23.2 mm thick and linear. There was no fluid in the Douglas space. A complete blood count showed that the hemoglobin level was normal (hemoglobin: 11.8 g/dL and hematocrit: 35.2%). The serum beta human chorionic gonadotropin level was 32338 mIU/mL.

She underwent laparoscopic surgery under general anesthesia. She provided informed consent before surgery. In the abdominal cavity, there were no blood clots. An unruptured ectopic gestational sac was observed; it was located in the right ampullary region of the fallopian tube. This mass was approximately 11 weeks gestation. Salpingectomy was performed with preservation of ovarian tissue. The right ovary, left fallopian tube, and left ovary were observed normally. At the end of laparoscopic surgery, dilatation and curettage was performed. The postoperative course was normal. She was discharged home in a good condition on second day.

A histopathological examination of the tissue specimens revealed tubal pregnancy (Figure 2, 3). The tissue from curettage was found to be that of the endometrium with decidual changes,

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Received:  
16.03.2015

Accepted:  
26.11.2015



**Figure 1.** Ultrasonographic appearance of ectopic pregnancy



**Figure 2.** Macroscopic appearance of the fetus located in the tubal gestational sac

without chorionic villi or trophoblasts. Arias–Stella phenomenon was seen.

## Discussion

Ectopic pregnancy is defined as the implantation of a fertilized ovum at a site other than the uterine endometrium. The incidence of ectopic pregnancy ranges between 0.25% and 1.5% of all pregnancies, including live births, medical terminations of pregnancy, and ectopic gestations (1). The fallopian tube is the most common site of ectopic implantation. The prevalence of ectopic pregnancy continues to rise because of increases in the incidence of risk factors predisposing to ectopic pregnancy. Diagnosis is clinically based on a history of pelvic pain associated with amenorrhea and a positive pregnancy test with or without slight vaginal bleeding (2).



**Figure 3.** Macroscopic appearance of the tubal gestational sac

The risks of ectopic pregnancy are affected by many factors, including infertility, ectopic pregnancy history, smoking history, emergency contraceptive use, intrauterine device use history, pelvic inflammatory disease, and age (3).

The early diagnosis of ectopic pregnancy is one of the greatest challenges for obstetricians (4). They are dangerous for the mother; internal bleeding is a common complication. Ectopic pregnancies are responsible for 10%–15% of all maternal deaths. Therefore, the prevention of any tubal rupture before its occurrence is extremely important (5). A diagnosis can be made by performing a transvaginal ultrasound examination and measuring human chorionic gonadotropin levels. The transvaginal ultrasound examination reveals an empty uterine cavity and adnexial mass with or without an embryo. However, a definitive diagnosis is made by performing surgery and microscopic examination of tissue specimens.

As mentioned before, mostly ectopic pregnancy is implanted in the fallopian tube. The ampullary region of the fallopian tube is the most common site of ectopic pregnancy with an incidence of 80%–90% incidence (6). As pregnancy progresses, local enlargement of the tube occurs at the point of implantation. At a later stage, a large region of the tube is distended, and the tubal wall appears discolored, dark red, or purple. One of the fundamental aspects of ectopic pregnancy is the inability of the tissues into which the blastocyst implants to offer resistance or respond to the invading trophoblast. Uncontrolled invasion of trophoblasts results in the destruction of vessels, local hemorrhage, and thinning of the tubal wall. Tubal rupture results in the collection of large amounts of blood in the abdominal cavity. The rupture of an ampullary pregnancy usually occurs in the early weeks of gestation (1). In other conditions, the conceptus dies at an early stage without symptoms or the conceptus is partially aborted from the fimbrial end of the tube.

Currently, the most widely accepted treatment options for tubal ectopic pregnancies are surgery or systemic medical treatment with methotrexate (7). In patient who present with pain and hemodynamic instability, the diagnosis is often obvious. The treatment for this condition is immediate laparotomy. However, in the developed world, a vast majority of patients with ectopic pregnancies present early and are therefore diagnosed early. In this situation, laparoscopic management is preferred for both economic and anesthetic advantages. Laparoscopic surgery provides better visualization, shorter hospitalization and recovery time, and causes less tissue injury and adhesions. In general, two methods, salpingectomy and salpingotomy, are performed. Salpingectomy is the excision of the fallopian tube containing the ectopic mass and is performed if the contralateral tube is healthy. Salpingotomy is the linear incision made in the fallopian tube with the removal of ectopic pregnancy and conservation of the tube and is performed if the contralateral tube is unhealthy (8). Salpingotomy might protect future fertility better than salpingectomy, but persistent trophoblastic tissue remains, causing recurrent ectopic pregnancy. Therefore, salpingotomy should be preferred in women with an abnormal contralateral tube and a normal contralateral tube if they are older than 35 years or have a history of infertility. In women younger than 35 years with a normal contralateral tube and without a history of infertility or tubal disease, a decision should be made sharing with the patient (9).

## Conclusion

Tubal ectopic pregnancies may result in tubal rupture because of tubal enlargement. Only ectopic pregnancy that may reach term is referred to as abdominal ectopic pregnancy. This is an extremely rare entity that represents 1% of all ectopic pregnancies (10). In the literature, large tubal ectopic pregnancies, as in our case, have been recognized in twin tubal ectopic pregnancies. Goswami et al. (11) defined a twin tubal ectopic pregnancy with a crown-rump length of 2 cm, which is a diameter less than that seen in our case. The accepted treatment option for large tubal ectopic pregnancies is surgical management. If ectopic pregnancy is <3.5 cm in diameter and embryonic heart activity and bleeding are absent, medical treatment is successful (12).

**Informed Consent:** Written informed consent was obtained from patients who participated in this study.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept - H.G.Ç., E.Ç.; Design - H.G.Ç.; Supervision - E.Ç., G.Y.; Funding - H.G.Ç., A.B.; Materials - H.G.Ç., A.B.; Data Collection and/or Processing - H.G.Ç., A.B.; Analysis and/or Interpretation - E.Ç., G.Y.; Literature Review - H.G.Ç.; Writing - H.G.Ç.; Critical Review - E.Ç., G.Y.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study has received no financial support.

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