

# Ectopic Pregnancy : Uncommon Presentations and Difficulty in Diagnosis

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## Summary

Diagnosis of ectopic pregnancy prior to rupture is an arduous task even with the availability of many new investigative methods and imaging modalities. Above all, a high index of suspicion is necessary when dealing with women who present in early pregnancy with abdominal pain and vaginal bleeding. With the increased use of ovulation induction agents, the probability of heterotopic pregnancy should be kept in mind. The use of transvaginal ultrasonography (TVS) will help in earlier diagnosis because of its advantages over transabdominal ultrasonography (TAS).

**Key Words:** Ectopic pregnancy, Heterotopic pregnancy, Cornual pregnancy, Diagnosis, Transabdominal ultrasonography, Transvaginal ultrasonography

## Introduction

We would like to present a case of heterotopic pregnancy and a case of second trimester cornual pregnancy, both of which are uncommon and difficult to diagnose. The diagnosis is often delayed resulting in considerable morbidity for the patient. A high index of suspicion is a prerequisite, and ultrasonography is helpful in the diagnosis of such a condition. We present our experience in managing two such patients with these rare types of ectopic pregnancies and the difficulties encountered.

## Case Report 1

Mrs X is a 35 years old lady in her fifth pregnancy. She has three living children and had one previous miscarriage at 16 weeks of gestation. Mrs X presented at 6 weeks of amenorrhoea with history of vaginal bleeding and abdominal pain. Her general examination was unremarkable and an abdominal ultrasound by the

admitting medical officer suggested a threatened abortion.

On review the next day, she was stable but the abdomen was tense with suprapubic guarding and tenderness. The possibility of ectopic pregnancy was entertained and a repeated ultrasound was done. The abdominal sonogram revealed an intrauterine gestational sac corresponding to the period of gestation with bilateral small ovarian cysts and an hypoechogenic mass with echogenic rim in the pouch of Douglas measuring 2 x 2 centimeter. Further questioning revealed that she had taken clomiphene citrate from her GP during her last menstrual cycle.

An emergency laparotomy was done, the differential diagnosis being either a heterotopic pregnancy or bleeding into an ovarian cyst. The laparotomy revealed a ruptured right tubal pregnancy with a small right ovarian cyst. A right salpingectomy was carried out. Postoperative period was uneventful and a repeat

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abdominal ultrasound done 2 weeks later revealed a viable ongoing intrauterine pregnancy.

### Case Report 2

Mrs Y, a 24 year old primigravida was first seen at 16 weeks of amenorrhoea, with a complaint of lower abdominal pain. The abdominal examination revealed a generally soft abdomen with some tenderness over the suprapubic area and both the iliac fossae. The pelvic examination revealed a gravid uterus corresponding to 16 weeks of gestation with a mass along the posterior uterine wall. At abdominal ultrasonography, a viable intrauterine gestation of corresponding dates and a mass in the lower part of the uterus, posteriorly, measuring 3 x 3 centimeter was seen. Our impression at the time was that she was having a red degeneration of a leiomyoma. She was managed conservatively and was discharged after 2 days.

She was readmitted again 3 weeks later with similar complaints. Her clinical examination was unremarkable except for pallor, with the uterus corresponding to 20 weeks of gestation. The abdominal ultrasound showed a viable pregnancy corresponding to dates and an echogenic mass with cystic areas within, measuring 7 x 8 centimeter at the lower segment. The anaemia was corrected by blood transfusion and the patient improved clinically. Prior to discharge, Mrs Y had a transient hypotensive episode. This was reversed with intravenous fluids. A repeat abdominal ultrasound was done. This revealed fluid in the peritoneal cavity and a gestational sac with a fetal echo separate from the uterus. The diagnosis was that of an abdominal pregnancy. Emergency laparotomy revealed a ruptured left cornual pregnancy with haemoperitoneum. A cornual resection was carried out. Postoperative recovery was uneventful. The histopathological report was consistent with a cornual pregnancy.

### Discussion

Ectopic pregnancy carries a high maternal mortality and morbidity mainly due to the difficulty in diagnosis. This is well illustrated in our two patients. Its incidence varies between 0.25% and 1% of all pregnancies<sup>1</sup>. Even more rare are these two subsets of ectopic pregnancy

namely heterotopic pregnancy and cornual pregnancy. The traditionally quoted incidence of heterotopic pregnancy is 1 : 30000 pregnancies. However, recent reviews suggested an incidence of 1 : 2600<sup>1</sup>. This increase may be related to the advent of assisted reproduction. The use of clomiphene citrate for ovulation induction is associated with multiple pregnancy in 5 to 7% of the cases. The other common risk factors for ectopic pregnancy are a history of pelvic inflammatory disease (PID), endometriosis, previous tubal surgery and intrauterine contraceptive device usage.

The clinical presentation of patients prior to rupture of ectopic pregnancy is vague and may overlap with other gynaecological conditions such as miscarriage, degeneration of leiomyoma and PID. About 45% of patients had no symptoms, 30% complained of abdominal pain, and 25% presented with abdominal pain without any vaginal bleeding.

The advent of transvaginal ultrasonography (TVS) has greatly revolutionized pelvic imaging, including early diagnosis of ectopic pregnancy. Its advantage over the transabdominal ultrasonogram (TAS) lies in its ability to diagnose pregnancy earlier, with better image resolution and accuracy, without the need for a full bladder. The main draw back of TVS lies in the reluctance of patients to undergo this procedure. However, in both cases, TAS was used to aid in the diagnosis, though a TVS may have confirmed the diagnosis of a cornual pregnancy considerably earlier in case 2.

Serum hCG has been used in combination with ultrasonography to diagnose ectopic pregnancy. However, this method is not available in our laboratory. Furthermore, hCG level in both cases presented above may have been normal.

The diagnostic criteria for cornual pregnancy on TVS are<sup>2</sup> :-

1. An empty uterine cavity;
2. A chorionic sac seen separately and > 1 cm from the most lateral edge of the uterine cavity; and
3. A thin myometrial layer surrounding the chorionic sac.

The aim of management of ectopic pregnancy is to diagnose and treat before rupture of the ectopic gestation. Thus, early diagnosis is the watchword.

In heterotopic pregnancy, the specific aim of management consists of removing the extrauterine pregnancy without affecting pregnancy. The prognosis of the co-existing intrauterine pregnancy is good with 53% of the intrauterine pregnancy continuing to term after removal of the extrauterine pregnancy<sup>3</sup>. The surgical management of heterotopic pregnancy involves the removal of the extrauterine pregnancy by an open salpingectomy as was done in Mrs X. It may also be managed by laparoscopic salpingostomy.

In cornual pregnancy, a cornual resection and repair is the classical method of management. If an extensive rupture occurs with severe bleeding, hysterectomy would be necessary. Following cornual resection, subsequent pregnancies must be delivered abdominally. The medical management using methotrexate, given locally or systematically has also been tried.

In conclusion, ectopic pregnancy carries a high morbidity and mortality partly due to the difficulty in establishing an early diagnosis, prior to the rupture of the ectopic gestation. A high index of suspicion is necessary. With the recent advances in ultrasonography particularly transvaginal sonogram, diagnosis is made easier and more accurate.

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