Heterotopic Pregnancy in Natural Conception: A Rare Clinical Entity

ABSTRACT

Spontaneous heterotopic pregnancy is a rare condition in a natural cycle without any risk factors and it is difficult to assess as pain and bleeding might be attributed to threatened abortion also. We are reporting a case of spontaneous heterotopic pregnancy in a natural cycle which was missed in the initial transvaginal scan and was reported to be an intrauterine pregnancy which later presented with clinical features of ruptured ectopic pregnancy. So, if assisted reproduction technique (ART) is not involved, the index of suspicion of a heterotopic pregnancy is usually very low and can cause more serious complications as diagnosis may be delayed.

KEYWORDS heterotopic pregnancy, threatened abortion, transvaginal ultrasound, ectopic pregnancy

INTRODUCTION

Heterotopic pregnancy is defined as the simultaneous presence of intrauterine and ectopic pregnancy. Commonly the ectopic pregnancy is within the fallopian tube and uncommonly in the cervix or ovary. The incidence of spontaneous heterotopic pregnancy vary from 1:30,000 to 1:50,000.1,2 The first case was reported in 1708 as an autopsy finding. Among pregnancies resulting from assisted reproduction techniques (ARTs), the incidence is greater, approximately 1 in 3,600.3 Spontaneous triplet heterotopic pregnancy has also been reported, with two yolk sacs seen in one tube.4 In another case, an ectopic pregnancy in each tube with a single intrauterine gestation was reported.5

CASE REPORT

Mrs X a 32-year-old primigravida, with 10 weeks of amenorrhea presented to our department with acute lower abdomen of 12 hours duration. She had a transvaginal scan report done 15 days back showing a bicornuate uterus with an intrauterine pregnancy of 8 weeks in the right horn of the uterus. She was married for 7 years and it was a spontaneous conception. She had no medical or surgical co-morbidities. On examination, she was pale with a pulse rate of 100 per minute and blood pressure of 90/60 mmHg. Her abdomen was soft and there was no tenderness. On speculum examination, the cervical os was closed, and the cervix and vagina appeared healthy. On vaginal examination, there was presence of cervical motion tenderness the uterus was retroverted, around 8 weeks size, soft in consistency.

After initial resuscitation with intravenous fluids and on further investigation she was found to have a hemoglobin of 7.5 gm/dl with a normal white blood count (WBC) and platelet count. An emergency transvaginal scan of pelvis was done which showed a large amount of free fluid in the pelvis with a probability of haemoperitoneum. A cystic area of 0.3 cm was noted in the right horn of the uterus with a possibility of intrauterine sac and a large heterogenous mass lesion was noted in the right adnexal region suggestive of clots. Provisional diagnosis of heterotopic pregnancy was made with ruptured right ectopic gestation with intrauterine missed abortion, patient underwent emergency laparotomy. Intraoperatively 1 litre of haemoperitoneum with 250 gms of organised blood clots with ruptured tubal pregnancy...
on right side was noted. A foetus was found partially attached at ruptured tubal site and the uterus was firmly adherent to the sigmoid colon posteriorly with obliteration of the pouch of Douglas. Grade 4 endometriosis was noted. Left ovary was adherent to the fundus of the uterus posteriorly and right ovary could not be visualized due to bowel adhesion. Right partial salpingectomy was done followed by instrumental evacuation of the uterine cavity as it was an intrauterine missed abortion. Histopathological examination confirmed the presence of chorionic villi. She was transfused with two units of PRBC. She had an uneventful postoperative period and was discharged on the 6th postoperative day.

**DISCUSSION**

Heterotopic pregnancy can be a life-threatening condition and can be easily missed, with the diagnosis being overlooked. A high index of suspicion is needed in women with risk factors for an ectopic pregnancy and in low-risk women with an intrauterine gestation who have free fluid with or without an adnexal mass or in those presenting acute abdominal pain and shock. The ectopic component is usually treated surgically and the intrauterine one is expected to continue normally. Heterotopic pregnancies are usually diagnosed from 5 to 34 weeks of gestation. It is reported that 70% of the heterotopic pregnancies were diagnosed between 5 and 8 weeks of gestation, 20% between 9 and 10 weeks and only 10% after the 11th week. The common presenting signs and symptoms are abdominal pain, adnexal mass, peritoneal irritation and an enlarged uterus, as defined in the literature. Abdominal pain was reported in 83% and hypovolemic shock with abdominal tenderness was reported in 13% of heterotopic pregnancies. In addition, 50% of the patients did not complain of vaginal bleeding, if vaginal bleeding occurs, it may be retrograde from the ectopic pregnancy due to the intact endometrium of the intrauterine pregnancy. The recent advances in transvaginal sonography (TVS) helped in the early diagnosis of heterotopic pregnancy. It has proven to be an invaluable tool in the diagnosis of this condition. However, the sensitivity of TVS in diagnosing heterotopic pregnancy is only 56% at 5–6 weeks. In a study of ultrasonographic images found a tubal ring i.e. an adnexal mass with a concentric echogenic rim of tissue and a gestational sac surrounding a hypoechoic empty center was noted in 68% of the ectopic pregnancies in which the tube had not ruptured. At times, even with TVS, an adnexal sac can be mistaken for a hemorrhagic corpus luteum or an ovarian cyst, especially in hyperstimulated ovaries. A heterotopic pregnancy goes unnoticed in the presence of intrauterine pregnancy. Therefore, if the beta-hCG levels are higher for the period of gestation with an intrauterine pregnancy, one must look for a coexistent tubal pregnancy and if there are no conclusive adnexal findings, most of the time the diagnosis of ectopic pregnancy will be based on other ultrasound features of rupture ectopic such as hematoperitoneum, hematosalpinx and free fluid in the peritoneum or in the pouch of Douglas. Knowledge of heterotopic pregnancy is becoming increasingly important as more women undergoing assisted reproduction, particularly ovulation induction. Heterotopic pregnancy remains a diagnostic challenge and should be kept in mind when a patient who has undergone assisted reproduction presents with pelvic pain.

If the ectopic component of a heterotopic pregnancy has ruptured the treatment is always surgical and the intrauterine pregnancy is expected to continue normally. If the ectopic pregnancy is detected at an early stage and if unruptured, treatment options include expectant management with aspiration and installation of potassium chloride or prostaglandin into the gestational sac. Systemic methotrexate (MTX) or local injection of MTX cannot be used in a heterotopic pregnancy owing to its toxicity, although some authors have used instillation of a small dose. The laparoscopic approach is technically a better option without disrupting the course of an intrauterine pregnancy.

**CONCLUSION**

Heterotopic pregnancy in a natural conception is a rare and potentially fatal condition. A high index of suspicion is required in patients presenting with amenorrhea,
abdominal pain, adnexal mass, peritoneal irritation. Even if an intrauterine pregnancy has been confirmed, the suspicion should be higher in women with risk factors for an ectopic pregnancy. In the presence of an intrauterine pregnancy, either viable or not, the ectopic component of a heterotopic pregnancy may be masked resulting in a delayed diagnosis. Simultaneous intrauterine pregnancy causes difficulties in the interpretation of ultrasound images. The ultrasound visualisation of heart activity in both intrauterine and extrauterine gestations is important for diagnosis, but rare. Hence, in all patients of reproductive age, even in the presence of an intrauterine pregnancy, a complete review of the whole pelvis including adnexa should be done at the time of ultrasound to rule out the presence of a heterotopic pregnancy.

REFERENCES