

Heterotopic Pregnancy: A Case Report

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1. Introduction

Spontaneous heterotopic pregnancy is a rare clinical and potentially dangerous condition in which intrauterine (IU) and extrauterine pregnancies occur at the same time. It 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 IU 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 IU one is expected to continue normally.

2. Case Report

G5P5 patient 35 year old patient reported to our emergency with chief complaints of bleeding per vaginum and pain abdomen since four hours. She was 12 weeks on the day of her examination. This was her spontaneous conception and all her previous deliveries were full term normal vaginal deliveries. Her history does not suggest and intrapartum or postpartum complications. Her medical history suggests history of pelvic inflammatory disease for which she took medical treatment. There is no history of any abortion or infertility treatment. On examination her vitals were blood pressure 80/60 mm Hg and pulse rate 100 / min. On per abdomen examination she had guarding, tenderness and rebound tenderness. On per vaginum examination uterus was 12 weeks size, cervical os closed with bleeding. Right forniceal tenderness was present and cervical motion tenderness present. She was resuscitated and her necessary lab investigations were sent. Her hemoglobin was 8 gm/dl and rest of the reports were within normal range. Her ultrasound report of the same day showed intrauterine pregnancy of 12 weeks gestation with cardiac activity and right adnexal mass 4*4 cm with increased colour doppler flow. There was free fluid in pelvis. Decision for explorative laparotomy was taken with consent and blood was arranged for her. Per operative findings were right sided ampullary ruptured ectopic and 12 week size uterus. There was 2 litre of hemoperitoneum. Right salpingectomy and left sided tubal ligation by modified Pomeroy's done. Hemoperitoneum was removed. She received four units of blood transfusion intra and post operatively and ICU care was given. Patient was stable and withstood the procedure well. Suction evacuation was done and all the tissues sent for histopathology. Histopathology of tube confirmed chorionic villi suggestive of ectopic pregnancy and suction evacuation products report confirmed products of conception.

Heterotopic pregnancy is defined as the presence of multiple gestations, with one being present in the uterine cavity and

the other outside the uterus, commonly in the fallopian tube and uncommonly in the cervix or ovary.[1-3] It was first reported in 1708 as an autopsy finding.[4] In natural conception cycles, heterotopic pregnancy is a rare event, occurring in <1/30,000 pregnancies.[5-7] It occurs in about 0.08% of all pregnancies.[8] With assisted reproduction techniques, however, this incidence increases to between 1/100 and 1/500.[9,10] It occurs in 5% of pregnancies achieved after in vitro fertilization.[11] Spontaneous triplet heterotopic pregnancy has also been reported, with two yolk sacs seen in one tube.[12] In another case, an ectopic pregnancy in each tube with a single IU gestation was reported.[13] Heterotopic pregnancies are usually diagnosed from 5 to 34 weeks of gestation.[14] Tal *et al.*[9] 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. Our case was diagnosed at 11 weeks, when the ectopic pregnancy was ruptured. The early diagnosis of heterotopic pregnancy is often difficult because the clinical symptoms are lacking. Usually, signs of the extrauterine pregnancy predominate.[15] Four common presenting signs and symptoms, abdominal pain, adnexal mass, peritoneal irritation and an enlarged uterus, were defined in the literature.[15] Abdominal pain was reported in 83% and hypovolemic shock with abdominal tenderness, which is the case of our patient, was reported in 13% of heterotopic pregnancies. In addition, half of the patients did not complain of vaginal bleeding in another publication.[9] Vaginal bleeding does occur; however, it may be retrograde from the ectopic pregnancy due to the intact endometrium of the IU pregnancy.[16] The recent advances in transvaginal sonography (TVS) helped in the early diagnosis of heterotopic pregnancy. US, especially transvaginal scanning, 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.[17] In the TVS of the uterus, the typical image of a heterotopic pregnancy is the presence of an IU gestation coexisting with an ectopic cornual pregnancy containing an embryo [Figure 3].[18] A retrospective study of ultrasonographic images found that a tubal ring (an adnexal mass with a concentric echogenic rim of tissue, a gestational sac, surrounding a hypoechoic empty center) was present in 68% of the ectopic pregnancies in which the tube had not ruptured.[19] If the pregnancy is <6 weeks, diagnosis is the presence of a cardiac activity. At times, even with TVS, the adnexal sac can be mistaken for a hemorrhagic corpus luteum or ovarian cyst, especially in hyperstimulated ovaries.[20] A heterotopic pregnancy goes unnoticed in the presence of IU pregnancy. Therefore, if the beta-hCG (human chorionic gonadotropin) levels are higher for the period of gestation with an IU pregnancy, one must look for

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a coexistent tubal pregnancy. Sometimes, there are no conclusive adnexal findings and the diagnosis of ectopic pregnancy may be based on other ultrasound features, such as hemoperitoneum, hematosalpinx and free fluid in the peritoneum [Figure 4] or the pelvis; e.g., in the pouch of Douglas.[21] In our case, signs and symptoms of peritonism and shock resulted from internal bleeding secondary to the ruptured ectopic tubal pregnancy. Sometimes, the identification of an IU pregnancy can divert attention from the possibility of a concurrent ectopic pregnancy. However, even if we suspect its existence, its identification in US is usually much more difficult with the presence of a big hemoperitoneum. In the case of an IU pregnancy with acute lower abdominal pain, the possibility of a heterotopic pregnancy should be considered. This condition is very rare in a natural cycle. However, with the increasing use of assisted conception techniques, doctors must be alert to the fact that confirming an IU or ectopic pregnancy clinically or by ultrasound does not exclude a coexisting ectopic or IU pregnancy, respectively. After diagnosis, the ectopic component in case of rupture is always treated surgically and the IU pregnancy is expected to continue normally. In case the ectopic pregnancy was detected early and was unruptured, treatment options include expectant management with aspiration and installation of potassium chloride or prostaglandin into the gestational sac.[22] 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.[23] The laparoscopic approach is technically feasible for both cases without disrupting the course of an IU pregnancy.

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