

## A Case Report of Heterotrophic Pregnancy

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### **Abstract:**

**BACKGROUND:** Heterotrophic pregnancy is rare complication of pregnancy in which both extra uterine and intra uterine pregnancy occur simultaneously. It may also be referred to as combined ectopic pregnancy multiple sited pregnancy or coincident pregnancy.

**CASE SCENARIO:** we report a case of 26 years old female presented with 3month of amenorrhea with complaints of severe pain abdomen since 3 days. She had obstetric score of G2A1 at 9 weeks with previous missed abortion ,and conceived by in vitro fertilization now.

Physical exam revealed hemoperitoneum without shock. ultrasonography revealed two gestational sacs, one a viable intrauterine corresponding to 9 weeks and other ruptured right tubal pregnancy and hemoperitoneum. Patient was shifted to operation theatre for emergency laparotomy and the patient did well postoperatively .The intrauterine pregnancy evolved normally under progesterone supply and a term male baby weighing 2.9 kg was delivered at term.

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### **I. Introduction:**

Heterotopic pregnancy is the coexistence of an intrauterine and an extrauterine gestation ,it is a rare and dangerous condition occurring only in 1 in 30,000 spontaneous pregnancy. With Assisted Reproduction Techniques and ovulation induction, the overall incidence of heterotopic pregnancy has risen to 1 in 3400 pregnancies.

The chances of heterotrophic pregnancies are increased in pelvic inflammatory disease, prevalent use of IUD, increase in tubal surgery, pharmacologic ovulation stimulation, assisted reproductive techniques. Transvaginal ultrasound is the key for diagnosing heterotrophic pregnancy. Sonographically, an adnexal mass is seen in 80% of ectopic pregnancies. In 20% of ectopics, no sonographic evidence of an adnexal mass is found. It is reasonable to expect that these percentages can also be applied to heterotopic pregnancies. This means that in 20% of cases the sonographic diagnosis of a heterotopic pregnancy cannot be made. Conversely, however, it also means that potentially the diagnosis can be made in 80% of the cases with rigorous sonographic evaluation of the adnexae. Suspicious adnexal masses can be investigated with Doppler ultrasound in an attempt to improve sensitivity and specificity. However it continues to have low sensitivity because the diagnosis is often missed. Therefore the diagnosis is often delayed leading to serious consequences.

Earlier diagnosis and treatment of extrauterine pregnancies has resulted in a dramatic decrease in maternal morbidity and mortality in spite of the increasing incidence of the condition. The application of rapid quantitative assays for the beta subunit of hCG combined with the use of transvaginal ultrasound has significantly contributed to this earlier diagnosis. Surgical intervention plays a key role in management of heterotrophic pregnancy. Laparoscopic salpingectomy is the standard surgical approach of heterotrophic pregnancy. Other management options are local injection of potassium chloride, hyperosmolar glucose or methotrexate into the sac under ultrasound guidance following aspiration of the extrauterine pregnancy. Surgical removal of the ectopic gestation by salpingectomy or salpingostomy is the treatment of choice. In patients in whom the diagnosis of ectopic pregnancy can be made without laparoscopy and who sonographically demonstrate an unruptured gestation and a persistent downward trend to the b-hCG assay, expectant management has been successfully applied. This form of conservative management can also be applied to heterotopic pregnancies having a similar clinical appearance. 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

### **II. Case Summary:**

A 26 year old female had come with history of 3 month of amenorrhea with complaints of pain abdomen since 3 days . She had a marital life 4 years with obstetric score of G2A1 .Her first pregnancy resulted in missed abortion and she underwent dilatation and evacuation. Her menstrual cycle is regular lasting 30 days and she bleeds for 5 days. Her husband had low sperm count and he was successfully treated for pulmonary

tuberculosis. She was conceived by in vitro fertilisation this time. On admission she was moderately built & nourished with vitals of PR – 110/min; BP- 90/60 mm Hg. On examination per abdomen-revealed tender abdomen. Per speculum- cervix & vagina are healthy with no discharge and no bleeding. Per vagina- uterus enlarged to 10 weeks, and a painful right adnexal mass of about 8 centimeters of diameters and Cervical motion tenderness. The pouch of Douglas was painful and bulging. Investigations: Urine pregnancy test- positive, with elevated level of beta human chorionic gonadotropin. Hb- 9gm/dl, total count- 10,000 cells/cu mm. LFT & RFT- under normal limits. Ultrasonography report showing a singleton intrauterine pregnancy of 9 weeks and a gestational sac in the right adnexa containing a non living embryo of 7 weeks gestation and 500 millilitres of hemoperitoneum. Emergency laparotomy was done with right salpingectomy was performed with removal of the hemoperitoneum and peritoneal lavage. The patient was transfused with 4 units of blood during and after the surgery. The post-operative period was uneventful. Histology of the salpingectomy specimen confirmed chorionic villi suggestive of an ectopic pregnancy. An abdominal ultrasound scan was performed on the post-operative day 1, which revealed a viable IU pregnancy. The patient recovered uneventfully and was discharged from the hospital within 4 days. The IU pregnancy proceeded without complications and a male baby was delivered at term. The mortality rate for the intrauterine pregnancy is approximately 35%.

### **III. Discussion:**

Ectopic pregnancy is a major cause of morbidity and mortality in reproductive age women. There is no single non-invasive test to detect the presence of an ectopic pregnancy. A uterine pregnancy in conjunction with an extrauterine pregnancy is termed as heterotrophic pregnancy. The identification of a live embryo within a gestational sac outside the uterus is the gold standard for the ultrasound. The common presenting signs and symptoms for heterotopic pregnancy as abdominal pain, adnexal mass, peritoneal irritation, and an enlarged uterus. These presentations are however nonspecific and may be confused with other normal or abnormal pregnancy manifestations. A possible pregnancy must be considered in any woman who has amenorrhea with abdominal pain or abnormal vaginal bleeding. A heterotrophic pregnancy may have similar signs symptoms as normal intrauterine pregnancy and ruptured ovarian cyst, corpus luteum or appendicitis. Blood test and ultrasound can be used to differentiate this condition. Early diagnosis prior to the occurrence of a rupture improves the prognosis and avoids life-threatening complications. The ectopic pregnancy is treated surgically if the intrauterine pregnancy is desired. When the ectopic pregnancy is removed, the intrauterine pregnancy continues in most patients. A possible pregnancy must be considered in any woman who has amenorrhea with abdominal pain or abnormal vaginal bleeding. A heterotrophic pregnancy may have similar signs and symptoms such as normal intra-uterine pregnancy and ruptured ovarian cyst, corpus luteum or appendicitis. Blood tests and ultrasonography can be used to differentiate these conditions. There is significant increase in the incidence of heterotrophic pregnancy in patients undergoing ovulation induction. Even greater incidence of heterotrophic pregnancy is reported in pregnancies following assisted reproductive technologies such as in vitro fertilization and gamete intrafallopian transfer. The prognosis for the extrauterine fetus is very poor, having an estimated 90-95% mortality rate. The mortality rate for the extrauterine pregnancy is approximately 35%.<sup>3,8</sup> Most of the heterotopic pregnancies present in the first trimester as in this case report. Once a heterotopic pregnancy is diagnosed, the next dilemma that arises is how to manage it without harming the intrauterine pregnancy. Heterotrophic pregnancy is possible with natural conception and the survival of the intrauterine fetus is feasible.

### **IV. Conclusion:**

All patients who undergo assisted reproduction should be submitted to careful monitoring in early pregnancy. Until recently, especially with the advent of assisted reproductive procedures, it is definitely a fatal condition that might even lead to maternal morbidity and even mortality if there is a delay in intervention assuming it to be an intrauterine pregnancy (IUP). The incidence of heterotopic pregnancy is still low, but is increasing. IUP diagnosed with ease in this case will enumerate how the source of haemoperitoneum was least thought to be of tubal origin because of the rarity in the incidence of heterotopic pregnancy.

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