

# Quadruplet Heterotopic Pregnancy: a Case Report

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## ABSTRACT

**Background:** Heterotopic pregnancy is a condition in which pregnancy occurs synchronously intrauterine and extrauterine. The estimated incidence following spontaneous conception is below 1/30,000. On the other hand, the incidence in artificial reproductive techniques has been reported to be as high as 1/100.

**Case:** This case report is of a 20 year old woman, nulliparous, who presented to the emergency department with acute abdominal pain post ovulation induction with human menopausal gonadotrophins and intrauterine insemination. Examination revealed acute surgical abdomen. Ultra-sonographic examination showed viable triplet intrauterine gestation of 10 weeks and presence of right complex adnexal mass. Laparotomy was done and the patient was found to have right tubal ectopic pregnancy that was managed by salpingostomy. Post operative period was uneventful and patient was discharged with viable three embryos and she was followed as an outpatient in a high risk pregnancy clinic.

**Comment:** Though the incidence of heterotopic pregnancy is low following spontaneous pregnancy but a high index of suspicion must be considered in any patient with intrauterine pregnancy who presented with abdominal pain and adnexal mass and particularly if conception occurs after artificial reproductive techniques. This approach would avoid maternal morbidity and mortality.

**Key words:** Heterotopic pregnancy, Adnexal mass, Artificial reproductive techniques, Ectopic pregnancy

## Presentation

A 20 year old woman, nulliparous, presented to the emergency room (ER) with a chief complaint of right sided abdominal pain associated with vaginal spotting. She had right sided abdominal discomfort and dull aching pain for the last four weeks, but she developed more intense colicky pain over the last three hours prior to her presentation to the ER.

On history review she was found to have 2 years of infertility and she was followed in our infertility clinic. She was diagnosed as a case of unexplained infertility and accordingly she underwent ovulation induction treatment by human menopausal gonadotrophin (HMG) and intrauterine insemination (IUI). Eventually, she got pregnant and her clinical pregnancy was documented by ultrasonography (US) examination. She was found to have three intrauterine gestational sacs. Folic acid 5mg was prescribed to her since the time of IUI.

At time of presentation to the ER she was 10 weeks pregnant. History was negative regarding previous episodes of the same pain or any previous medical conditions and she had no past history of abdominal surgical procedures. Additionally she had no bowel or urinary symptoms.

## Examination

She was in pain, anxious, had low grade fever and other vital signs were stable. She had generalized lower abdominal tenderness but localized right iliac fossa rebound tenderness. Per vaginal examination showed closed cervix, minimal spotting and mild cervical excitation. US examination showed a viable intrauterine triplet pregnancy with crown rump length of 9 weeks plus 2 days, 9 weeks plus 4 days and 10 weeks. Interestingly, there was a right complex adnexal mass of 7 x 8 cm and minimal free fluid in pouch of Douglas. Her complete blood count (CBC) was normal except for the presence of mild leukocytosis. The patient was admitted to the ward and evaluated by the surgical team who raised the suspicion of appendicular mass.

## Intervention

She underwent laparotomy and was found to have a normal appendix and a right sided intact ampullary ectopic pregnancy and salpingostomy was performed. The left tube and both ovaries were normal.

Care was taken in handling the uterus and the right ovary to avoid any possible damage to the intrauterine pregnancy and particularly not to damage the corpus lutea .

Postoperatively the patient had an uneventful recovery. Ultrasound confirmed the viability of the three fetuses and histopathology confirmed the diagnosis. She was discharged two days after laparotomy and followed as an outpatient. At time of writing this report she is now 23 weeks of gestation and her pregnancy is smooth with regular ante natal care.

## Discussion

Heterotopic pregnancy is defined as the presence of multiple gestations with one being in the uterine cavity and the other outside the uterus, commonly in the tube (Karli 4).

Today there is an increase in the use of artificial reproductive techniques and fertility drugs to improve fertility rate. This raises the patient's risk of having a heterotopic pregnancy due to the combined effect of hyperstimulation and simultaneous transfer of more than one embryo into the uterus (M. Liu 8 ). Other risk factors which are responsible for infertility like PID and previous tubal surgeries also contribute to heterotopic pregnancy ( Luo X. 5) .

Diagnosing heterotopic pregnancy is still a challenge for the obstetricians and many cases are diagnosed very late( Karim IM 7).The diagnostic role of serum B-hcg level in heterotopic pregnancy is debatable . The normal algorithm for the rapid rise in the serum B-hcg in early pregnancy cannot be used due to the presence of the intrauterine gestation which could lead to false assurances ( David K 12 ). Likewise, abdominal and pelvic ultrasound also fails to demonstrate the ectopic component or it is misinterpreted due to the presence of the intrauterine pregnancy (Nnoli 1).

Laparoscopic salpingostomy or salpingectomy is preferred over laparotomy to minimize manipulation of the pregnant uterus . If the hemodynamic status is compromised, laparotomy is the only choice ( Maalt ME 10 ). For an unruptured ectopic pregnancy, systemic methotrexate is contraindicated because of the viable intrauterine pregnancy (Asha Baxi 2).

## Conclusion

As no single investigation can predict the coexisting heterotopic pregnancy , it should be suspected in any pregnant woman in her early weeks of gestation who presents with lower abdominal pain even with a documented intrauterine pregnancy . This is particularly important following fertility treatment.

Demonstration of an intrauterine pregnancy is no longer a reliable indicator for excluding an ectopic pregnancy.

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