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HETEROTOPIC PREGNANCY OCCURRING IN NATURAL CONCEPTION PRESENTING AS ACUTE ABDOMEN AND THE INTRAUTERINE PREGNANCY COMPLICATED WITH MISSED ABORTION

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Abstract

Background: Heterotopic pregnancy is the simultaneous development of an intrauterine pregnancy and an ectopic pregnancy. Although it is common with assisted reproductive technology, this fatal condition rarely occurs in natural conception cycles, with a rate of just one in 30,000 pregnancies. A high index of suspicion can help in timely diagnosis and appropriate treatment. If undiagnosed, they are associated with significant maternal morbidity and mortality. We report a case of heterotopic pregnancy in a 30-year-old woman presenting with signs and symptoms of acute abdomen at 2months of amenorrhea.

Case presentation: A 30 years old gravida 3 para1 abortion 1(spontaneous at 3 months of amenorrhea) who was amenorrhea for 2 months presented with abdominal pain of 4 days and diagnosed to have heterotopic pregnancy and emergency laparotomy and left side salpingectomy done and the patient discharged on the 3rd post op day with stable vital sign and viable intrauterine pregnancy but the intrauterine pregnancy becomes missed abortion 9 weeks after surgery and it was medically terminated

Conclusion: Heterotopic pregnancy must always be considered in all patients presenting with abdominal or pelvic pain in the presence of a documented intrauterine pregnancy and there should be prompt and immediate action when a heterotopic pregnancy is suspected, to avoid missing this potentially life-threatening condition.

Keywords: acute abdomen, heterotopic pregnancy, natural conception

INTRODUCTION

Heterotopic pregnancy (HP) refers to the presence of simultaneous pregnancies at two different sites of implantation, one intrauterine and one extrauterine. The incidence of heterotopic pregnancy is estimated to be 1/30,000 in spontaneous pregnancy but much higher (1/3900) when associated with assisted reproductive technology (ART)(1). We present a rare case of heterotopic pregnancy with live intrauterine gestation and ruptured left adnexal gestation in a natural conception.

Case report

A 30 years old gravida 3 para1 abortion

1(spontaneous at 3 months of amenorrhea) who was amenorrhic for 2 months presented with abdominal pain of 4 days which was initially over the left lower quadrant of abdomen and then became diffuse. She had also vomiting of ingested matter of 4 to 5 episodes. But she had no vaginal bleeding. She has no fever, rigors or chills. She had no history of pelvic inflammatory disease, sexually transmitted diseases, intrauterine device use, abdominal surgery, or treatment for ovulation induction.

On presentation, the patient was acutely sick looking and blood pressure was 80/70mmHg and pulse rate was 132 bpm. Abdominal examination showed full abdomen moves with respiration and has diffuse tenderness over the lower part of abdomen and has shifting dullness. Pelvic examination showed enlarged uterus with closed cervix and left side adnexal tenderness and there was also bulging of culdo sac. Pelvic ultrasound was done and showed partially full bladder, free fluid in culdo sac and abdominal cavity, intrauterine gestational sac within the endometrial cavity containing a yolk sac with a fetal pole which has cardiac activity with crown rump length (CRL) of 8 weeks and one day. There was also left adnexal gestational sac with fetal pole with CRL of 8 weeks but has no cardiac activity (figure 1). Her blood group was O negative, hematocrit (HCT) was 24%.

So, with the diagnosis of acute abdomen secondary to ruptured heterotopic pregnancy, cross matched blood prepared and emergency laparotomy done and the finding was about 1000ml hemoperitoneum which was sucked out, left side ampullary freshly ruptured ectopic pregnancy with active bleeding from rupture site and enlarged uterus. A left salpingectomy was performed and ectopic pregnancy with intact gestational sac removed (figure 2 and 3) and the intrauterine pregnancy was allowed to continue. She was transfused one unit of compatible blood post operatively. And discharged on 3rd post-operative day. Her HCT at discharge was 26% and provided with therapeutic iron sulphate. Intrauterine pregnancy viability was confirmed at discharge and counselled to continue her antenatal care follow up. But the intrauterine pregnancy becomes missed abortion 9 weeks after surgery (figure 4) and medically terminated using misoprostol 200microgram vaginally given 3 doses given every 4 hours.

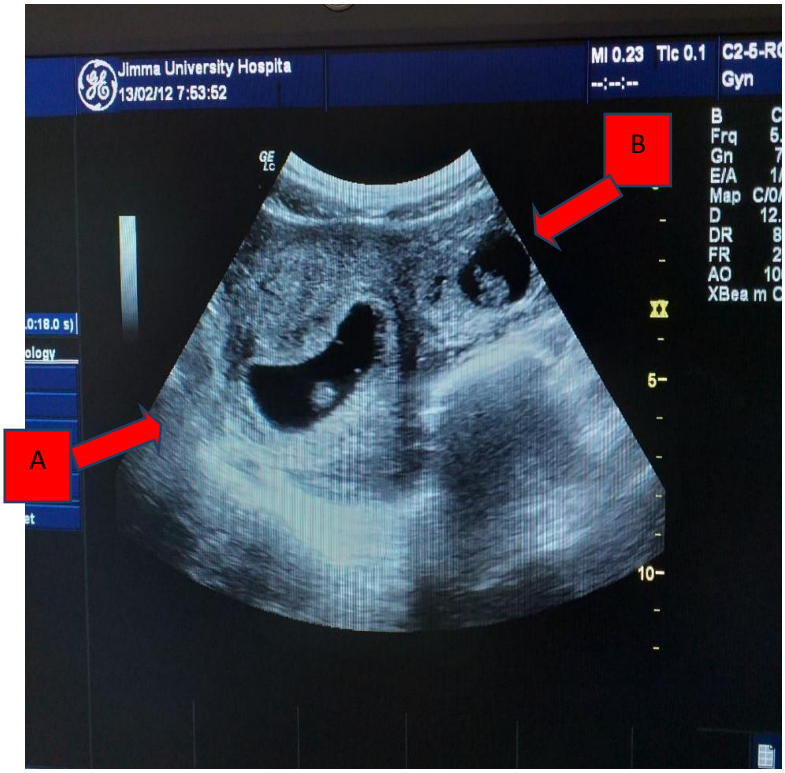

Figure 1: transabdominal ultrasound showing simultaneously (A)- intrauterine pregnancy and (B) - extrauterine pregnancy in left adnexa

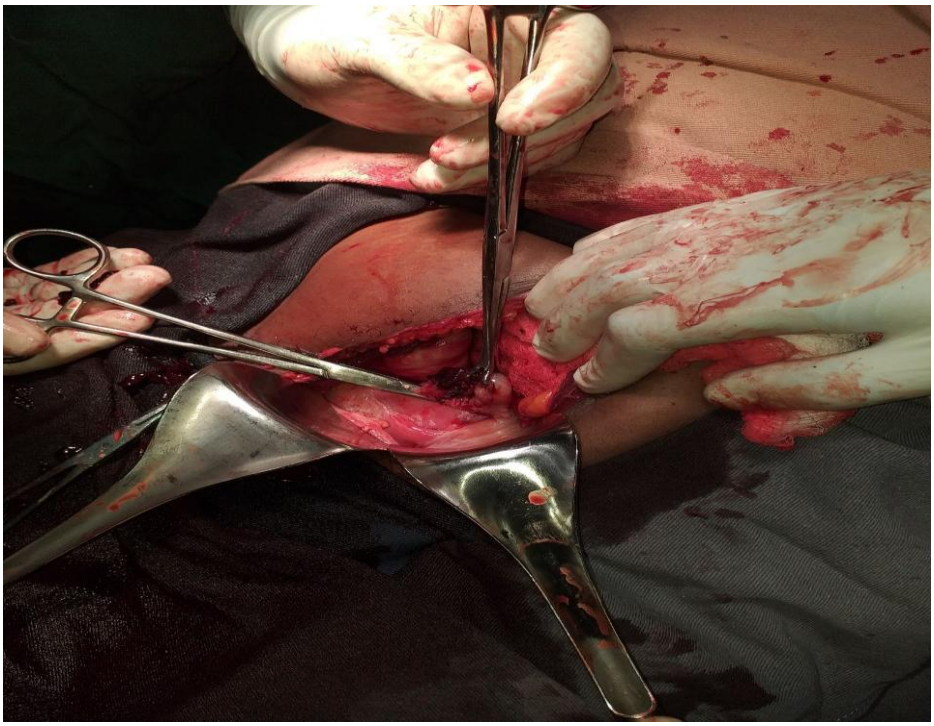

Figure 2: Picture showing while doing left side salpingectomy after evacuation of hemoperitoneum

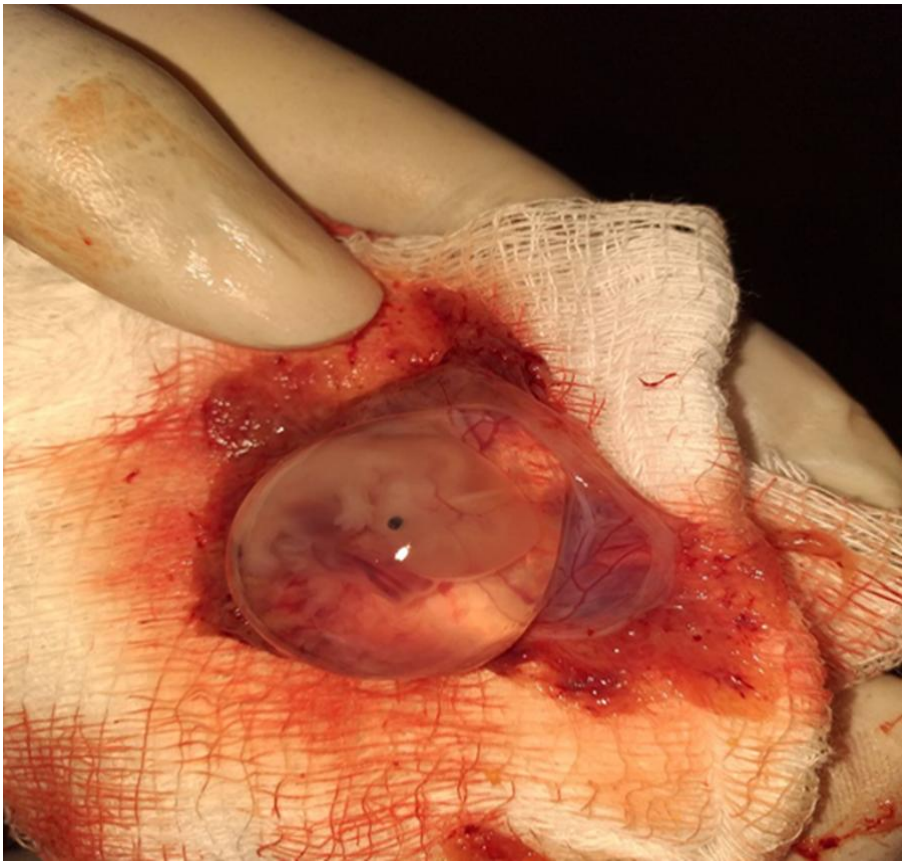

Figure 3: the removed ectopic pregnancy with intact gestational sac

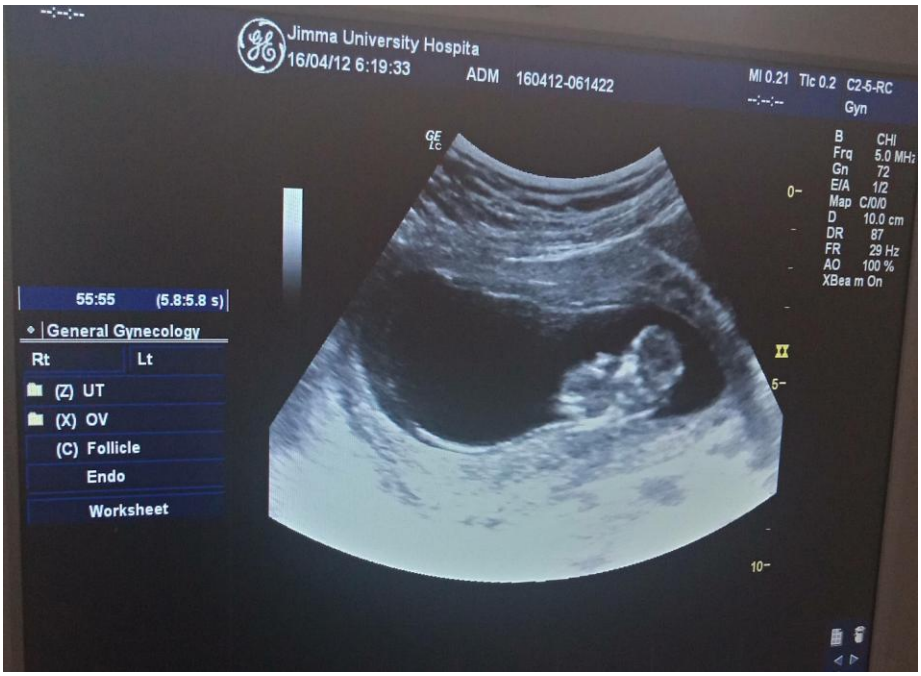

Figure 4: picture showing IUP that became missed abortion 9 weeks after surgery for heterotopic pregnancy

DISCUSSION

Heterotopic pregnancy is simultaneous occurrence of intrauterine and extrauterine pregnancy and it poses unique therapeutic challenges. It has been found in various forms but still is a rare event in natural conception cycles occurring in less than 1:30,000 pregnancies, 1 in 900 in clomiphene citrate induced pregnancies, and rises to 1% in assisted reproduction(1). There are two categories of risk factors for heterotopic pregnancy: risk factors of ectopic pregnancy (history of infertility, sexually transmitted infection, intrauterine device, smoking, hormonal contraception, pelvic surgery) and ovulation induction and assisted reproductive technologies (ART)(2). Our patient did not have identified risk factor.

Its diagnosis requires high index of suspicion and is often delayed due to due to the lack of clinical signs and symptoms as well as diagnostic confusion with other early pregnancy issues(3). A good history is important to identify risk factors for heterotopic pregnancy such as fertility treatment and tubal pathologies like pelvic inflammatory disease, endometriosis or previous tubal surgeries(4). The patient's symptoms are often very similar to an ectopic pregnancy and they typically present with abdominal pain that may be localized or diffuse. On pelvic exam the physician may feel an adnexal mass or an enlarged uterus. Vaginal bleeding can also be present. Depending on the stage of illness the patient may also hypotensive. There are no physical examination orlaboratory findings that are specific for heterotopic pregnancy but this diagnosis should be considered in any hypotensive pregnant patient with abdominal pain and an IUP identified on ultrasound. In our case, the patient presented with amenorrhea of 2 months and abdominal pain of 4 days and on presentation she was hypotensive and on pelvic examination uterus was enlarged and had left side adnexal tenderness with bulged culdo sac.

The differentials of abdominal pain in patients with IUP are wide which includes appendicitis, kidney stone, pyelonephritis, gallbladder disease, ovarian torsion, endometritis, and heterotopic pregnancy which should be considered as these could all have high morbidity and mortality for patients if not diagnosed.

The diagnosis of heterotopic pregnancy is especially difficult, as it cannot be easily determined by serial β-human chorionic gonadotrophin (β-HCG). Ultrasonography is routinely used in early pregnancy but has low sensitivity which may be partially due to the confirmation of an intrauterine pregnancy (IUP) often giving a sense of false security, which can lead to the misdiagnosis of the patient's abdominal pain. The only pathognomonic sign of heterotopic pregnancy is the simultaneous visualization of extrauterine and intrauterine fetal pole with cardiac motion. This occurs in only 10% of cases(5). In the presented case there was intrauterine fetal pole with cardiac activity and extrauterine fetal pole without cardiac activity and hemoperitoneum and both were discovered simultaneously via ultrasound. Otherwise the presence of an intrauterine pregnancy, either viable or not, may actually mask the ectopic component of a heterotopic pregnancy, resulting in delay of diagnosis. In the case of confirmed IUP and hemoperitoneum, it is important to consider the possibility of ruptured heterotopic pregnancy.

Management of heterotopic pregnancy in case the ectopic one has ruptured and if the patient is hemodynamically unstable laparotomy should be done to evacuate the non-viable pregnancy. And while operating for the ruptured ectopic,decrease

manipulation of uterus and handle it with care. Treatment should be as minimally invasive as possible to preserve the developing intrauterine pregnancy. In our case the left side salpingectomy done and the IUP was alive at the time of discharge.

With early diagnosis and treatment, 70% of the intrauterine pregnancies will reach viability(6). All operated patients with ruptured ectopic must be followed up with clinical examination, and subsequent ultrasonography and β-hCG levels on clinical suspicion of on-going intrauterine pregnancy. But in our case, the IUP became missed abortion 9 weeks after surgery during subsequent follow up and medically terminated with misoprostol 200 microgram given vaginally every 4 hours three doses.

CONCLUSION

Heterotopic pregnancy must always be considered in all patients presenting with abdominal or pelvic pain in the presence of a documented IUP. This is because the presence of an IUP does not always exclude the presence of a heterotopic. Thus, we recommend that all patients, especially those who are symptomatic, must be assessed comprehensively to exclude the presence of a simultaneous heterotopic. We also emphasize the need for prompt and immediate action when a heterotopic pregnancy is suspected, to avoid missing this potentially life-threatening condition.

Competing interests

The authors declare that they have no competing interest

Consent

Written informed consent was obtained from the patient‘s next of kin for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Authors' contributions

TD did the literature review and prepared the manuscript, FA was involved in the literature review and manuscript preparation, made the final corrections and approved the manuscript. Both authors read and approved the final manuscript.

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