Case Report

A Successfully Managed Spontaneous Heterotopic Pregnancy Diagnosed in the Second Trimester of Pregnancy

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Introduction

Heterotopic pregnancy (HP) originates from the Greek word ‘hetero’ meaning ‘other’ and ‘topos’ meaning ‘place’. It is defined as the presence of co-existing intra- and extra-uterine pregnancies in an individual.[2] It is an abnormal form of multiple pregnancies, that is relatively uncommon in obstetrics and gynaecological practice, especially when it occurs through a spontaneous conception.[2] Its incidence varies widely with regards to the mode of conception. It is estimated to be <1 in 30,000 among spontaneously conceived pregnancies; and in assisted conception, there is a 70-fold increase in incidence which has been reported to vary from 1: 100 to 1: 500 pregnancies.[3,4] Over 736 cases of HP have been cited in the literature between the year 1900 and 2010,[1,3,5,6] with several incidences also reported in Nigeria.[7,8]

Although rare, it is an extremely dangerous condition. And like ectopic pregnancy, high index of suspicion is required for early diagnosis and prompt intervention to prevent a fatality. The majority of the extra-uterine pregnancies of HP are diagnosed in the first half of pregnancy, while only about 10% of HP are diagnosed after 11 weeks gestation.[10]

We report a rare case of spontaneous HP that presented in the second trimester of pregnancy with acute abdomen. She subsequently had a successful exploratory laparotomy and delivery of a live infant at term.

Case Report

A 32-year-old woman (gravida 2 para 0+) presented at the Gynaecological Accident and Emergency room of Lagos University Teaching Hospital, Idi-Araba, Lagos, with complaint of worsening generalised abdominal pain of 24 h duration. Her last menstrual period was on 13 June 2013, and she was 20 weeks 3 days pregnant. She had no history of fever, trauma to the abdomen, vaginal bleeding or discharge. She, however, complained of associated increasing weakness and dizziness, but no fainting spells. Her pregnancy was spontaneously conceived, and it had been uneventful until the onset of symptoms. She had not registered for antenatal care; neither had she had any ultrasonography done in the index pregnancy. She was not aware of her retroviral status, and she had no family history of multiple pregnancies.

On examination, she was moderately pale, in painful distress with pulse rate of 120 bpm, blood pressure of 90/60 mmHg and respiratory rate of 30 cpm. Abdomen was marked tender with uterine size of 28 weeks gestation. Speculum examination revealed enlarged uterus of 28 weeks size with tenderness in the vaginal fornices. She was resuscitated with intravenous fluids. Haemoglobin and haematocrit were 7.1 gm/dl and 22%, respectively while white blood cell count was 15,300/μl. Retroviral screening was positive for human immunodeficiency virus (HIV) 1 and 2. Ultrasound examination showed viable intrauterine foetus at 21 weeks gestation. Speculum examination did not reveal any abnormality. Bimanual examination revealed enlarged uterus of 28 weeks size with a viable extrauterine foetus at 20 weeks 5 days gestational age seen in the right hypochondrium with cardiac activity of 180 bpm and its placenta overlying the right psoas muscle. Gross
extraluminal fluid collection with internal echogenic debris in keeping with haemoperitoneum was noted. She was counselled on the diagnosis and the need for emergency exploratory laparotomy, and she gave consent. Intraoperative findings during laparotomy were haemoperitoneum of 1.5 litres, intact gravid uterus, viable male foetus with weak cord pulsation within an intact amniotic sac lying inside the abdominal cavity with its head partially embedded inside the fimbrial end of the right fallopian tube, which was bleeding actively and the placenta completely attached to the right fallopian tube and the omentum [Figures 1 and 2]. Right, salpingectomy and omentectomy were done with complete removal of the placenta [Figure 1]. The baby died soon after delivery. The patient was transfused with a total of 6 units of blood intra- and post-operatively. Her post-operative recovery was uneventful. She perceived foetal movement satisfactorily, and a repeat ultrasound scan was essentially normal. Viral load result was 24,200 copies/ml and CD4 count was 453 cells/mm. She commenced highly active anti-retroviral therapy comprising of zidovudine, lamivudine, lopinavir and ritonavir for prevention of mother to child transmission (PMTCT) of HIV. She was discharged home on the 10th post-operative day.

The patient had an uneventful antenatal care and obstetric follow-up. In the absence of repeat viral load and CD4 count results, she was counselled for an elective caesarean section for PMTCT of HIV infection, and she consented. At 38 completed weeks, she was delivered of a live female neonate with birth weight of 2.9 kg through an elective caesarean section. Puerperal events were unremarkable.

**Discussion**

HP is the occurrence of intrauterine pregnancy and ectopic pregnancy at the same time. This pregnancy combination can present in various forms. The commonest form of HP presentation is the occurrence of singleton intrauterine pregnancy co-existing with either a tubal, cornual, abdominal or ovarian ectopic pregnancy. Other forms of HP presentation include the presence of multiple intrauterine pregnancies co-existing with a singleton extraterine pregnancy or singleton intrauterine pregnancy co-existing with multiple extraterine pregnancies.[4,11] This is rare, and it usually occurs with the use of artificial reproductive techniques (ART).[2] The advent of ART has led to significant rise in the risk and incidence of HP, which otherwise rarely occurs in a natural cycle.[2]

HP is a highly fatal clinical condition. This is due to its acute clinical presentation, intraperitoneal bleeding and diagnostic dilemma encountered at presentation especially in early pregnancy. There is a high possibility of delayed diagnosis or misdiagnosis by the attending clinician when patient present in early pregnancy. This may not be unconnected with the assumed rarity of the condition following a spontaneous natural conception, its vague clinical presentation and the presence of an intrauterine pregnancy which may shift attention away from HP especially in early pregnancy. To avert fatal morbidity and mortality; comprehensive history taking, meticulous clinical examination and keeping a high index of suspicion are vital tools a clinician must possess. History of assisted conception of any kind and presence of identifiable risk factors for ectopic pregnancy such as previous tubal or pelvic surgery, previous ectopic pregnancy and pelvic inflammatory disease (PID) should raise the suspicion of HP.

Commonly, HP presents with amenorrhoea, vague abdominal pain and vaginal bleeding with or without confirmatory evidence of an intrauterine pregnancy in the early stage. Severe intra-abdominal pain, tenderness, guarding, rebound tenderness with an adnexal mass and enlarged uterus are usually seen in the later stage. Ultrasonography is a very useful diagnostic tool in the investigation of HP. Its diagnostic value is enhanced by the use of transvaginal ultrasonography in early pregnancy and by the skill and experience of the sonologist. The presence of intrauterine cyesis with co-existing adnexal mass may be seen in early pregnancy, while obvious extrauterine foetal parts are seen in more advanced pregnancy as it was the case in the patient presented.
In the case reported, the diagnosis of HP was made in the second trimester of pregnancy, which is not a common occurrence. The majority of HP are diagnosed early in the first trimester with only <10% diagnosed after the first trimester.\(^\text{[10]}\)

The mainstay of management is surgery via laparoscopy or laparotomy depending on the stage of pregnancy and patient’s clinical state. The aim is to preserve the intrauterine pregnancy by ensuring minimal manipulation of the gravid uterus. A common intraoperative dilemma is a decision to remove or not to remove the ectopic placenta. Attempt at removal may result in uncontrollable haemorrhage if placenta is well supplied by major vessels or becomes impracticable if densely attached to multiple viscera. A safe alternative choice is to leave the placenta in situ with the possible risk of intra-abdominal infection, abscess and adhesion formation. The use of methotrexate is not applicable here due to the ongoing intrauterine pregnancy. Removal of placenta may be undertaken if the placenta can be easily delineated and its supplying vessels easily identified, accessed and ligated as it was the case in the patient presented.

The role of retroviral disease in the aetiology of HP is unknown, as there is no traceable study from literature search that has been done on the subject matter. However, HIV infection predisposes to other sexually transmitted infections that may cause PIDs which significantly increases the risk of an extrauterine pregnancy.

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**Conflicts of interest**
There are no conflicts of interest.

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