

## A CASE REPORT OF NON-VIABLE HETEROTOPIC PREGNANCY

Woka J.D<sup>1</sup>, Kenya A.E<sup>1</sup>, Owende P.A<sup>2</sup>

### Affiliation

1. Resident, Department of Obstetrics and Gynaecology, University of Nairobi, Kenya.
2. Consultant, Department of Obstetrics and Gynaecology, Kenyatta National Hospital, Kenya.

**Correspondence:** juliawoka@gmail.com

### Abstract

Heterotopic pregnancy is a rare concurrence of intrauterine and extra-uterine pregnancies. We present a heterotopic pregnancy case in which a 25-year-old woman, Para 1+0, gravida 2, presented with a natural conception at 10 weeks to the gynaecological ward at the Kenyatta National Hospital, Kenya. She gave a history of acute abdominal pain and vomiting. A left adnexal mass, an intrauterine non-viable pregnancy, and free fluid were demonstrated on transvaginal ultrasonography. Laparoscopy was done, and a heterotopic pregnancy was diagnosed.

**Keywords:** adnexal mass, heterotopic pregnancy, laparoscopy, ectopic pregnancy

### INTRODUCTION

Heterotopic pregnancy is a rare concurrence of intrauterine and extra-uterine pregnancies<sup>1</sup>. Intrauterine pregnancy may be viable or not. The incidence rate of heterotopic pregnancies is 1 in 30,000 natural conceptions. However, the increased use of Artificial Reproductive Technologies (ART) has raised the incidence to 1%<sup>2</sup>. Common risk factors associated with heterotopic pregnancy include a history of ART, previous ectopic pregnancy, pelvic inflammatory disease, the use of an intrauterine contraceptive device, and a previous tubal surgery<sup>2, 3, 4</sup>.

### CASE PRESENTATION

A 25-year-old, Para 1+0, gravida 2, with a natural conception at 10 weeks and 3 days gestation by date; presented with a history of acute abdominal pain and vomiting at the gynaecological ward at the Kenyatta National Hospital. Obstetric sonography that was done prior revealed a 9-week and 6 days intrauterine non-viable pregnancy (Figure 1). On clinical examination, the patient had tachycardia and diffuse lower abdominal tenderness, that was worst on the left iliac fossa. Transvaginal Ultrasonography (TVS) demonstrated a 10.4cm x 4.8 cm left adnexal mass, and intrauterine non-viable pregnancy (Figure 2). Free fluid was also seen in Morrison's pouch,

which raised the concern of ectopic pregnancy. A provisional diagnosis of heterotopic pregnancy with tubal rupture was made. Further tests were done, including a beta-human chorionic gonadotropin ( $\beta$ -hCG) hormone assay, and a complete haemogram.

Hysteroscopy and laparoscopy were done, and a gravid uterus and ruptured left tube at the ampulla, and a gestational sac with a foetus inside were visualised (Figures 3-4). The placenta was also found to have detached partially from the endometrium. Approximately 1 litre of haemoperitoneum was suctioned, and left salpingectomy and peritoneal lavage were performed. Manual vacuum aspiration of intrauterine pregnancy was also done. However, no autopsy or genetic studies on the abortus were done.

Histopathologic evaluation of the specimens confirmed the heterotopic pregnancy. Sections of the tubes showed chorionic villi in the fallopian tube wall and lumen, haemorrhage was also seen. Decidua endometrium and normal early pregnancy gestational chorionic villi were demonstrated in the other specimen.

On the first postoperative day, the patient's haemoglobin was 6.5gm/dl. Consequently, she was transfused with one unit of packed red blood cells. Her haemoglobin level was 8.9gm/dl on

the fifth postoperative day. The patient had an uneventful postoperative period and was discharged on progesterone-only oral contraceptive pills and followed-up in the gynaecology clinic. After two weeks, the patient reported to the clinic. She was stable and continued to be followed up.



**Figure 1:** Non-viable single intrauterine pregnancy (SIUP) at 9 weeks and 6 days (Ultrasound image): gestational sac containing a foetus with no cardiac activity



**Figure 2:** Left adnexal mass measuring 10.4cm x 4.8cm (Ultrasound images)



**Figure 3:** Ruptured tubal ectopic pregnancy; foetus visualised on laparoscopy



**Figure 4:** Hysteroscopic view of a gestational sac with a foetus and detached placenta

## DISCUSSION

The atypical presentation of acute left abdominal pain, intrauterine non-viable pregnancy, left adnexal mass, and haemoperitoneum, in this case, required a high index of suspicion. This is similar to the findings in cases reported elsewhere<sup>1,3</sup>. Thus, ectopic pregnancy was initially suspected in this case due to the atypical presentation. However, sonographic features of an intrauterine non-viable pregnancy with a left adnexal mass with haemoperitoneum led to heterotopic pregnancy suspicion, confirmed by laparoscopy. This is similar to cases reported by Barrenetxea et al. and Xu et al., who described that the occurrence of a complex adnexal mass with intrauterine mass should raise suspicion of heterotopic pregnancy<sup>4,5</sup>.

The beta-human chorionic gonadotropin ( $\beta$ -hCG) hormone levels, in this case, was (10,000 mIU/ml) consistent with the period of amenorrhoea. However,  $\beta$ -hCG assays may not adequately diagnose heterotopic pregnancy since low hormone production levels by an ectopic pregnancy may be overshadowed by the higher placental production from the intrauterine pregnancy<sup>6</sup>.

In this case, heterotopic pregnancy symptoms and signs tend to mimic other conditions, often leading to misdiagnosis or late diagnosis. A positive pregnancy test ( $\beta$ -hCG levels) may have been labelled primarily as an intrauterine pregnancy had the possibility of an additional ectopic pregnancy not been considered. In contrast, the left adnexal mass may have been falsely labelled as a corpus luteum cyst. The presence of haemoperitoneum in the pelvis may have been falsely labelled as ascites associated with ovarian hyperstimulation syndrome. Therefore, a high index of suspicion was required to diagnose this case as a heterotopic pregnancy.

A heterotopic pregnancy should be considered in a patient with an intrauterine pregnancy experiencing significant abdominal pain, free fluid in the pouch of Douglas, an adnexal mass on ultrasound, and a rise in  $\beta$ -hCG following treatment<sup>5</sup>. The suspicion index should be even higher when there is a history of ART<sup>5</sup>. This case was managed laparoscopically. The availability of laparoscopy and trained expertise is necessary for early diagnosis and management of heterotopic pregnancies, ensuring a minimally invasive approach and less hospital stay for the patient<sup>7, 8, 9</sup>. Early diagnosis is invaluable as delay may present with complications, which may be fatal<sup>10</sup>.

## CONCLUSION

Although rare, heterotopic pregnancy should be considered in the differential diagnosis of a patient with an intrauterine pregnancy and significant abdominal pain with an adnexal mass and free fluid in the pelvis. The use of laparoscopy and hysteroscopy offers an advantage in enhancing the early diagnosis and treatment of heterotopic pregnancy.

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