Case Report of Interstitial Ectopic Pregnancy Presenting with Ultrasound Diagnosis of Normal Intrauterine Pregnancy

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Abstract

Background: *Interstitial ectopic pregnancy implants in the proximal intramural portion of the fallopian tube. It could rupture with associated massive hemoperitoneum which is life threatening. Diagnosis is usually made by ultrasound scan although this can be misinterpreted as intrauterine pregnancy. We report a case of interstitial ectopic gestation which was not diagnosed by ultrasound scan but had laparotomy with metroplasty following clinical diagnosis.*

Case presentation*: A 32 year old woman who presented with abdominal pain following 16 weeks of amenorrhoea. She also presented with an ultrasound report of a viable pregnancy at 16 weeks and 2 days gestation with associated haemoperitoneum. A clinical assessment of ruptured ectopic gestation was made and she had left salpingectomy with metroplasty. The postoperative period was unremarkable and she was stable on follow up.*

Conclusion*: Interstitial pregnancy which is a rare type of ectopic gestation could be a diagnostic challenge. Its rupture could be associated with massive blood loss and treatment is surgical.*

Keywords: Interstitial, ectopic, haemoperitoneum, salpingectomy, metroplasty

Introduction

Interstitial ectopic pregnancy is rare hence evidence based protocol regarding its management is limited. The interstitial part of the fallopian tube is 1 – 2 cm long and 0.7mm wide.[2] Interstitial pregnancy occurs in the most proximal part of the fallopian tube.[1] It accounts for 2 – 4% of all ectopic pregnancies.[1]

Interstitial pregnancy is sometimes incorrectly referred to as angular or cornual pregnancy. [1] These are different terminologies although distinction between them may be difficult. Cornual pregnancy is implanted in a rudimentary horn of the uterus. Angular pregnancy is when the embryo is implanted medial to the utero-tubal junction which is the lateral angle of the uterine cavity.[1] Angular pregnancy results in lateral displacement of the round

ligament while in interstitial pregnancy, there is no lateral displacement of the round ligament.[3]We report a case of interstitial ectopic gestation which was missed by ultrasound scan, resulting in massive haemoperitoneum and was managed surgically.

Case presentation

A 32 year old para 1 woman with a living child who had one previous caesarean section presented following 16 weeks of amenorrhoea and abdominal pain of two days duration. Abdominal pain was initially in the lower abdomen but became generalised a few hours prior to presentation with associated dizziness and she had 2 episodes of fainting. She also presented with an ultrasound scan report of a viable intrauterine pregnancy at 16 weeks and 2 days gestation with associated ascitis (?hemoperitoneum). There was no history of weight loss or bleeding per vaginam. The only obvious risk factor for ectopic pregnancy was the previous caesarean section.

On presentation she was markedly pale. Her pulse rate was 110 beats per minute and blood pressure was 100/60mmHg. Her abdomen was distended and tender with associated guarding, making organs difficult to palpate. A clinical diagnosis of suspected ruptured ectopic gestation was made. She was counselled on diagnosis and the need for urgent exploratory laparotomy for which she gave consent. Packed cell volume done was 14%. Other laboratory investigation results were normal.

Intraoperative findings were hemoperitoneum of 3 liters of both stale and fresh blood and ruptured interstitial pregnancy at the left upper part of the uterus. There was no lateral displacement of the round ligament and the endometrial cavity was not breached. The site of the rupture on the left upper part of the uterus was 4cm long with gestational sac (with live fetus), partially extruded at the site of rupture. The fetus was removed via a small incision on the uterus, at the site of rupture, to extend it. Metroplasty with left salpingectomy was done. Four units of blood were transfusedintraoperatively and additional two units in the postoperative period.

Postoperative period was unremarkable. Her postoperative/posttransfusion packed cell volume was 28%. She was discharged home and remained without complain at follow up visit.

Figure 1: Left interstitial ectopic pregnancy with gestational sac protruding through the site of rupture.

Figure 2: Male fetus (0.2kg) and placenta found at laparotomy

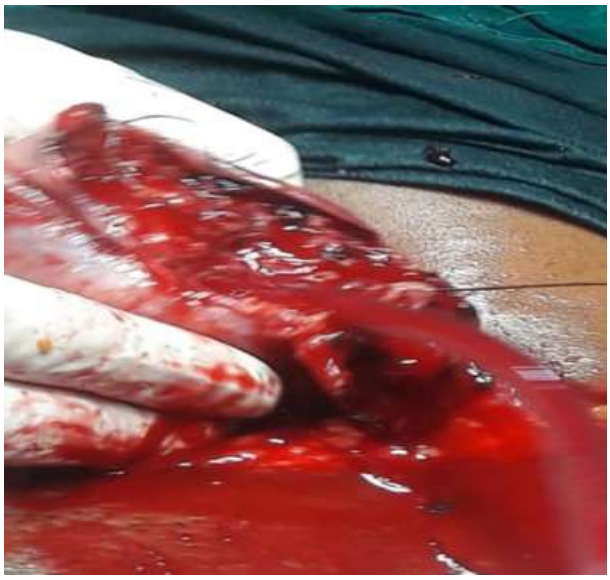

Figure 3: commencement of metroplasty following evacuation of products of conception.

Discussion

Interstitial pregnancy is a rare type of tubal ectopic gestation. It usually results in uterine rupture and life threatening haemorrhage. It has to be differentiated from angular and cornual pregnancy although this may be challenging.

The interstitial portion of the fallopian tube is highly vascularised and muscular which allows for distensibility more than any other part of the fallopian tube. [4] This anatomic property allows the embryo to advance in gestation before it is detected[4].

The risk factors for interstitial pregnancy include previous tubal surgery, previous tubal pregnancy, use of assisted reproduction, pelvic inflammatory disease and previous uterine instrumentation. [5,6] In the index case there was a history of previous caesarean section which could have been the predisposing factor for interstitial pregnancy. The main symptoms of interstitial pregnancy are abdominal pain and vaginal bleeding although it can be a cause of acute abdomen following rupture[7] as was found in this patient.

Ultrasonography is the main imaging modality for diagnosis of both intrauterine and extrauterine pregnancy. Ultrasound scan findings suggestive of interstitial pregnancy include visualisation of a gestational sac high up on one side of the uterus, with the surrounding myometrium less than 5mm in thickness, and an echogenic line extending from the mass to the endometrial plate echo – the interstitial line sign.[5] These features would give a sensitivity of 80% and specificity of 98% in the ultrasound diagnosis of interstitial pregnancy. [5] The ultrasound scan done in our patient inadvertently reported a normal intrauterine pregnancy with intraperitoneal fluid collection said to be ascitis to rule out hemoperitoneum. This further emphasises the value of clinical evaluation in patients with suspected ectopic gestation. With a history of amenorrhoea, lower abdominal pain, dizziness, fainting spells and shock, there was a strong clinical suspicion of ruptured ectopic pregnancy in this patient.

Other authors have also similarly concluded that abdominal ultrasound could be a times unreliable in the diagnosis of interstitial ectopic pregnancy.[4,8]

Interstitial pregnancy is difficult to differentiate from normal intrauterine pregnancy particularly if transabdominal ultrasound is used as it is surrounded by a layer of myometrium. [9] Transvaginal ultrasonography is more sensitive in early pregnancy although this was not done in the index case as she was not haemodynamically stable at presentation.

Management of interstitial ectopic pregnancy could be medical or surgical. Methotrexate is the primary treatment for those who are unruptured, haemodynamically stable and with gestational sac < 3.5cm. [10] Surgical management includes conservative laparoscopic surgery, uterine artery embolization, metroplasty or hysterectomy.[5]Medical management was not considered in this case as the patient had clinical features of ruptured ectopic pregnancy. Our patient had salpingectomy with metroplasty.

Conclusion

Interstitial pregnancy which is a rare type of ectopic gestation could be a diagnostic challenge, requiring a high index of clinical suspicion for diagnosis. Following rupture, it could be associated with massive blood loss which requires emergency surgical treatment and massive blood transfusion.

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