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Challenges in diagnosis and management of an interstitial ectopic pregnancy

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Abstract

Presentation
A 44 year old, grandmultiparous woman was reviewed in the early pregnancy clinic for a history indicated early reassurance ultrasound.

Diagnosis
Early pregnancy ultrasound findings were suggestive of a tubal ectopic pregnancy. A diagnostic laparoscopy and uterine curettage were both negative. A subsequent transvaginal ultrasound confirmed a non-viable interstitial ectopic pregnancy.

Treatment
Conservative management was employed as she remained haemodynamically stable with reducing serum βhCG. Following ten weeks, her serum βhCG normalised and she was discharged.

Discussion
IEP poses diagnostic and management complexities. Delayed diagnosis leads to elevated risks. Management options include surgical (laparotomy, uterine wedge resection) and non-surgical approaches (medical and conservative). Earlier diagnosis of smaller, stable cases facilitates medical management, while non-viable cases can be conservatively managed. This case

emphasizes the importance of prompt recognition and tailored interventions to enhance patient outcomes.

Introduction

Interstitial ectopic pregnancy (IEP) is a rare and potentially life-threatening condition that occurs when a fertilised egg implants in the interstitial (intramural) segment of the fallopian tube, accounting for 2-4% of all tubal ectopic pregnancies[1, 2]. IEP confers a higher morbidity and mortality than other tubal ectopic pregnancies as they frequently present at more advanced gestations and often have a delayed diagnosis[3, 4]. We present a case of IEP in our unit highlighting the significant diagnostic challenges with this uncommon condition.

Case Report

A 44 year old, grandmultiparous woman was reviewed in the early pregnancy clinic for a history indicated early reassurance ultrasound. She was eight weeks and five days gestation by last menstrual period with a regular cycle and spontaneous conception. Previously, she had five first trimester pregnancy loss, four previous caesarean sections and one vaginal delivery. Transvaginal ultrasonography (TVS) showed a thickened homogenous endometrium of 34mm, normal right ovary and a left inhomogeneous adnexal mass 3.2 x 2.8 x 2.3 cm with a hypoechoic area within measuring 1.1 x 1.3 x 1.4 cm. Serum βhCG was 33,749 IU/L initially and plateaued to 34,018 IU/L on repeat 48 hours later. Given the ultrasound and biochemical findings were highly suggestive of an ectopic pregnancy. She underwent a diagnostic laparoscopy and uterine curettage. Laparoscopic pelvic views were unremarkable with no evidence of ectopic pregnancy. Histology from the curettage subsequently reported no evidence of pregnancy tissue.

One week following the negative laparoscopy she presented to the emergency department with vaginal bleeding and pelvic pain. She was haemodynamically stable with a haemoglobin of 12.6g/dL and serum βhCG of 9,299 IU/L. TVS again reported a well-defined mass, although reduced in size to 1.5 x 1.8 x 1.7 cm without fetal pole or yolk sac, suggestive of an ectopic pregnancy (Illustration 2). On further imaging this mass appeared to be located in the anterio-lateral aspect of the uterus close to the fallopian tube hence a diagnosis of non-viable interstitial ectopic pregnancy was made.

Conservative management was employed with close vigilance for signs/symptoms of ectopic rupture. Fortnightly serial serum βhCG was performed which normalised (< 20 IU/L) after ten weeks (Illustration 1) and she was discharged.

Discussion

Historically, IEPs were termed “cornual” pregnancies[3]. Cornual pregnancy was used to describe both intra-uterine pregnancies (IUPs) implanting medial to the utero-tubal junction

of a normal shaped uterus (now termed angular) or in either horn of a bicornate or septate uterus, as well as ectopic pregnancies such as IEP or in a communicating/non-communicating rudimentary horn of a unicornuate uterus[3,5,6]. Timely diagnosis is crucial for the optimal management of any ectopic pregnancy (EP). TVS by a suitably trained sonographer remains the primary imaging modality recommended, due to its high sensitivity and specificity[3, 4]. Despite the availability of TVS and dedicated early pregnancy clinics, challenges with respect to diagnosis of IEP exist. IEPs have a seven-fold mortality and morbidity risk compared to other ectopic often relating to delayed diagnosis[3, 5]. Three dimensional ultrasonography may be a useful adjunct in diagnosing IEP as it provides views of the uterus that that are unobtainable with conventional 2D ultrasonography[7].

Treatment options for IEP may be divided into surgical and non-surgical management. There is no clear consensus in the literature as to whether surgical management is superior to either medical or conservative measures. Non-surgical management, either expectant or medical, aims to preserve fallopian tube and uterine integrity by allowing the IEP to reabsorb naturally while minimising morbidity[2,3]. Medical management of IEP involves local or systemic injection of methotrexate to induce regression while expectant management may be considered for non-viable IEP[2,3,5,6,7,8]. Non-surgical management is lengthy, requires careful vigilance for IEP rupture and patient engagement and co-operation. Surgical management is the definitive first line option if there is any haemodynamic instability or deterioration in a previously stable patient[1,3,4,10]. Surgical approaches are dependent both the clinical situation and the operators skillset but may include; ultrasound-guided transcervical forceps extraction, transcervical aspiration with/without laparoscopic or hysteroscopic guidance, cornuostomy, wedge resection, and hysterectomy[2-4].

Illustration 1: Trend of serum beta-βhCG in IU/L

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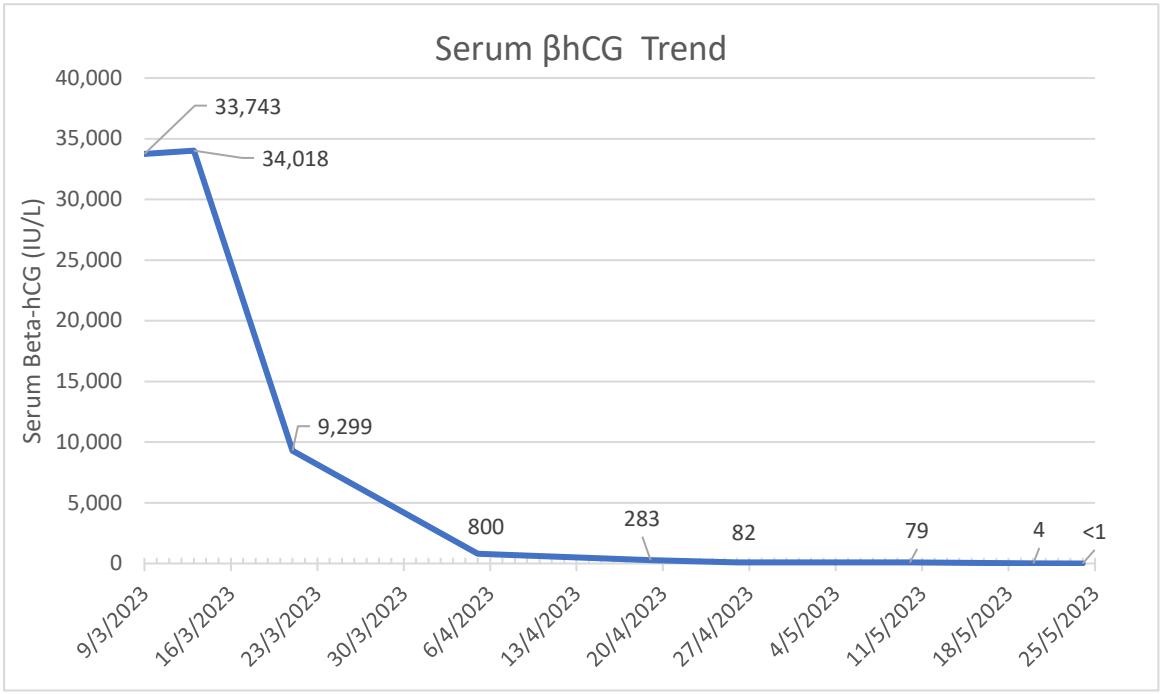
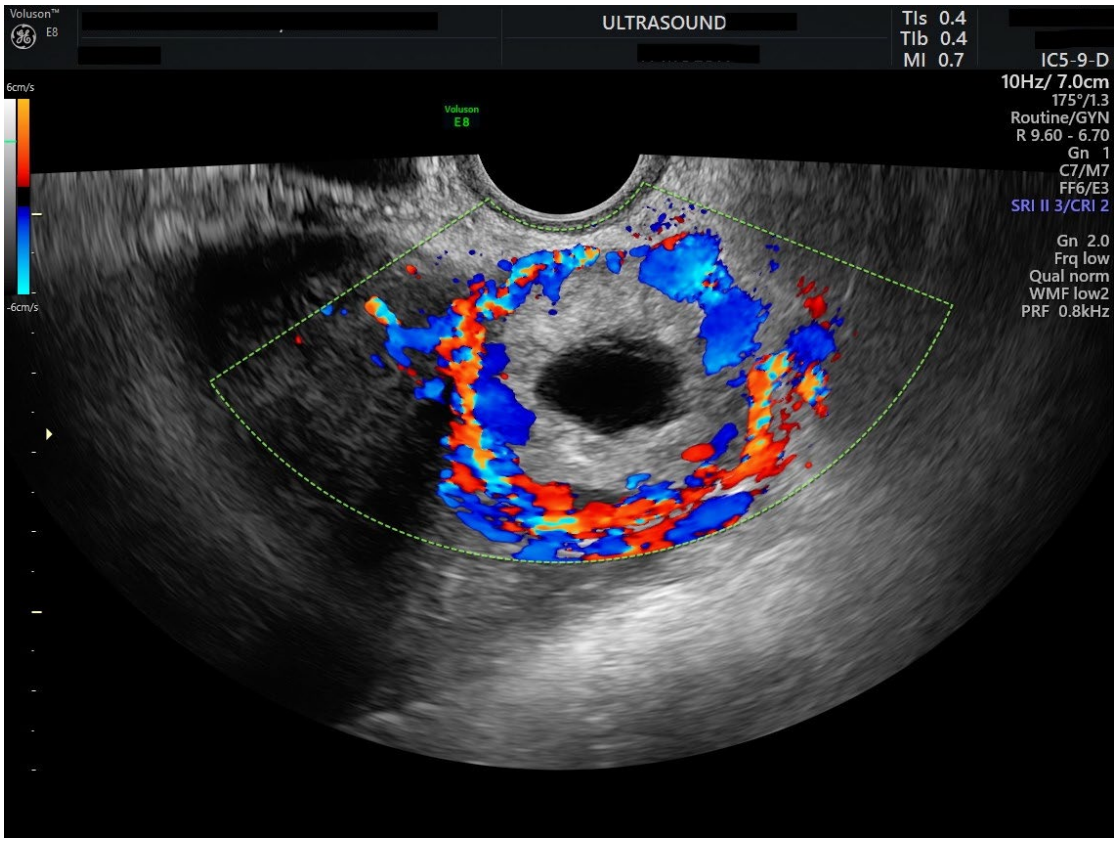


Illustration 2: US image



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Declarations of Conflict of Interest:
None declared.

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