

A Case Report of an Interstitial Ectopic Pregnancy: a difficult sonographic diagnosis

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Introduction

Interstitial pregnancies (IPs) occur in 2-4% of ectopic pregnancies(1). An IP is when a gestational sac (GS) implants in the intramural section of the fallopian tubes(1). Early diagnosis is key to prevent catastrophic haemorrhage, which is greater in IPs due to the involvement of the myometrium and the ability to grow to large sizes(2). Diagnosis is challenging. During ultrasound it can be difficult to differentiate from an intrauterine pregnancy and there are subtle ultrasound features to look out for. Furthermore, only 40% of women display symptoms so diagnosis may be late (3).

Case Report

A 40-year-old multiparous woman (3 previous SVDs) had her routine 12 week dating scan which showed a yolk sac and gestational sac of unknown viability at Frimley Park Hospital, Surrey UK. The pregnancy was considered to be intrauterine in location at that time. She was referred to our Early Pregnancy Unit in December 2022 to confirm viability. She had no symptoms, besides a one day history of PV spotting that had resolved 2 days prior to presenting to us. She had no risk factors for ectopic pregnancies.

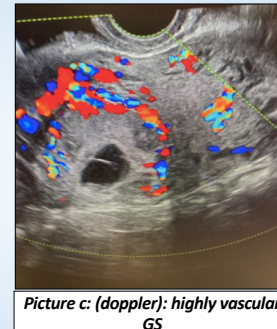
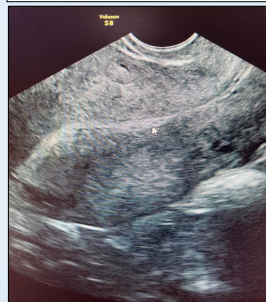
The ultrasound scan performed two weeks later, showed an empty uterine cavity (picture a) and a highly vascular gestation sac (picture c) measuring 45 x 51x 47mm with a very thin myometrium in the right side of uterus (picture b). The sonographer suspected an interstitial ectopic and escalated to EPU consultant. The interstitial ectopic diagnosis was confirmed by 2-D as well as 3-D scan by the consultant.

She was offered both medical and surgical management, with the wish to avoid surgery she opted for IM methotrexate. Her BHCG trended down immediately: 14,145 (day 0), 5,220 (day 4), 2,577 (day 7) and her latest, 5 (week 10). She remained symptom free and was managed exclusively as an outpatient with weekly follow up, from 7 days onwards. Only one dose of methotrexate was needed.

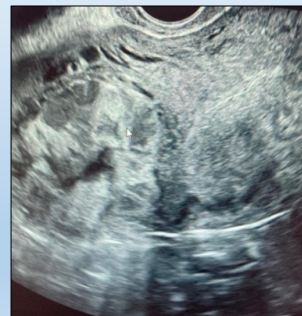
Ultrasound features suggestive an an interstitial ectopic (4)(5)

1. An empty uterine cavity (picture a)
2. A thin myometrial layer around chorionic sac (picture b)
3. A chorionic sac separate from the uterine cavity (picture b)
4. The interstitial line sign described as 'an echogenic line from the mass to the endometrial echo complex.' (6). *Nb this is may not be demonstrated.*

Picture a: an empty uterine cavity



Picture c: (doppler): highly vascular GS



Picture b: the mass has no continuation with the uterine cavity

Discussion

We have shown that an IP can be easily missed and may present in women without risk factors or significant symptoms. Therefore, it is not unusual for these women to be first scanned at their 12 week dating ultrasound. Recognising these features of IPs and early referral to early pregnancy units is essential.

We have also demonstrated that select women can avoid surgery and can have successful treatment with methotrexate, even with high BHCGs. Exclusive outpatient management can be achieved with regular follow up and careful safety netting. Key to the success of this is careful patient selection, ensuring the women are compliant with follow up and they are heavily safety netted. At FPH we have a 7 day/week and 12 hour/day EPU service which is key to managing complex outpatients.

Conclusions

It is essential to recognise ultrasound features suggestive of an interstitial ectopic. Any level of suspicion whatsoever should trigger immediate escalation for a second opinion given the serious consequences of a missed diagnosis. Exclusive outpatient management using methotrexate can be very successful for select interstitial ectopic patients. Management should be individualised for each individual and involve the MDT.

References:

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