



Hysteroscopy & Intraoperative Ultrasound: Diagnostic Tools for Type 1 Caesarean Scar Ectopic pregnancies

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Introduction

Ectopic pregnancies represent 2% of all pregnancies² and are associated with great maternal morbidity and mortality particularly when they are not identified in a timely manner. Caesarean scar ectopic pregnancies (CSEP) occur in approximately 1 in 2000 pregnancies¹ and result from abnormal embryo implantation outside of the endometrial cavity. A high index of suspicion is necessary for women with a history suggestive of CSEP as severe complications and loss of reproductive potential could result from misdiagnosis.

Case Presentation

A 41-year-old G3P2 with 2 previous caesarean sections presented with amenorrhea and spotting was found to have absent fetal heart tones on ultrasound suggesting a missed miscarriage. Conservative management was initiated, however, the patient later requested surgical management. Upon evacuation of the uterus, minimal products of conception were obtained, and intraoperative ultrasound and hysteroscopy were performed which showed a caesarean scar ectopic pregnancy. Medical management was subsequently initiated with methotrexate and serial serum B-hCGs as the uterus was void of a conceptus.

Outcome

Patient was successfully managed with methotrexate and outpatient follow-up.

Imaging

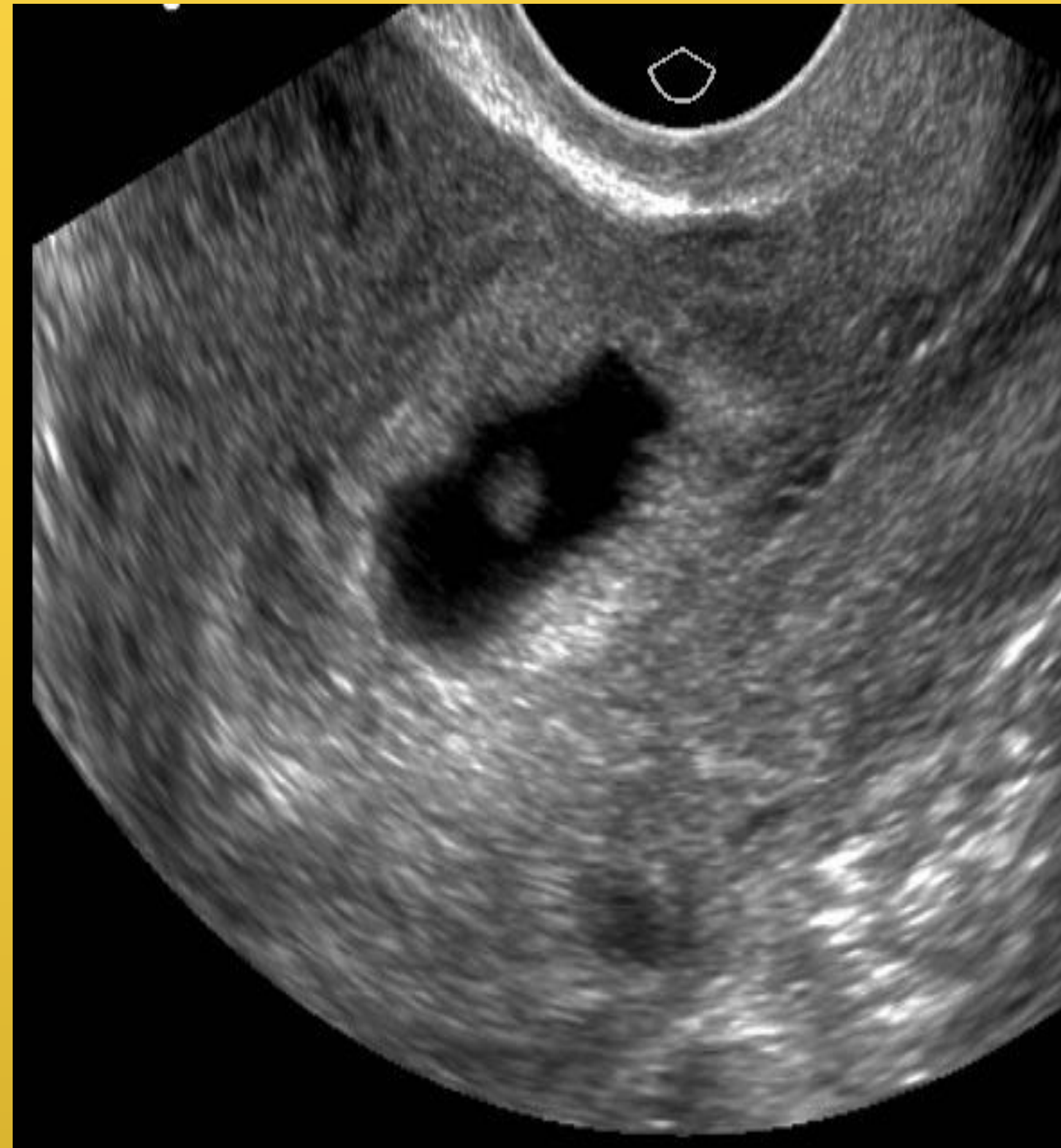


Figure 1: Ultrasound image of scar ectopic pregnancy
Source :Case courtesy of Dr Garth Kruger, Radiopaedia.org, rID: 21222

Discussion

Caesarean scar ectopic pregnancies are classified as Types 1 and 2 based on the type of hysterotomy scar. Type 1, which is known as endogenic type, develops in the myometrium, grows toward the uterine cavity and has the potential to progress into the second and third trimesters. Type 2 also known as the exogenic type, progresses towards the uterine serosa where it can be associated with invasion into the urinary bladder and uterine rupture within the first trimester, making it far more dangerous. Symptoms of CSEP can range from non-specific symptoms that can be mistaken for a spontaneous miscarriage or cervical ectopic pregnancy. CSEP misdiagnosis can lead to uterine rupture with life threatening maternal hemorrhage and loss of reproductive potential.

Transvaginal ultrasound remains the diagnostic tool of choice for caesarean scar ectopic pregnancies as it allows quick visualization of pathology and tends to be more accessible even in middle income settings such as the Bahamas. In complex cases magnetic resonance imaging (MRI) can also be utilized to determine scar defects and extent of invasion into the scar. In the absence of MRI such as in this case, hysteroscopy and intraoperative ultrasound allows for visualization and have proven quite beneficial.

Conclusion

As there is no established protocol, management choice of CSEP, whether expectant, medical, or surgical, is influenced by factors such as CSEP type, size of pregnancy, gestational age, hemodynamic stability, and fertility status. However, the goal of management remains individualized and requires prompt diagnosis to prevent complications and preserve fertility. Proper imaging is vital to ensuring a positive outcome, with hysteroscopy and intraoperative ultrasound being highly suggested in the absence of MRI for complex cases.

References

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