

A heterotopic pregnancy involving a caesarean section scar

Abstract

Heterotopic pregnancy refers to the presence of simultaneous pregnancies in two different implantation sites, generally one intra-uterine pregnancy and one extra-uterine pregnancy (usually tubal). This is a rare case of a heterotopic pregnancy involving concurrent intra-uterine pregnancy and caesarean section scar pregnancy (CSEP). CSEPs are at a high risk of bleeding and uterine rupture, carrying with them significant maternal morbidity.

Keywords: Heterotopic pregnancy, caesarean section scar, ectopic pregnancy, lower segment caesarean section, transvaginal ultrasound.

Debra Paoletti
AMS, MAppSci
(Sonography)

Fetal Medicine Unit
The Canberra Hospital
Garran ACT Australia

Correspondence to author
via Email
Debra.Paoletti@act.gov.au

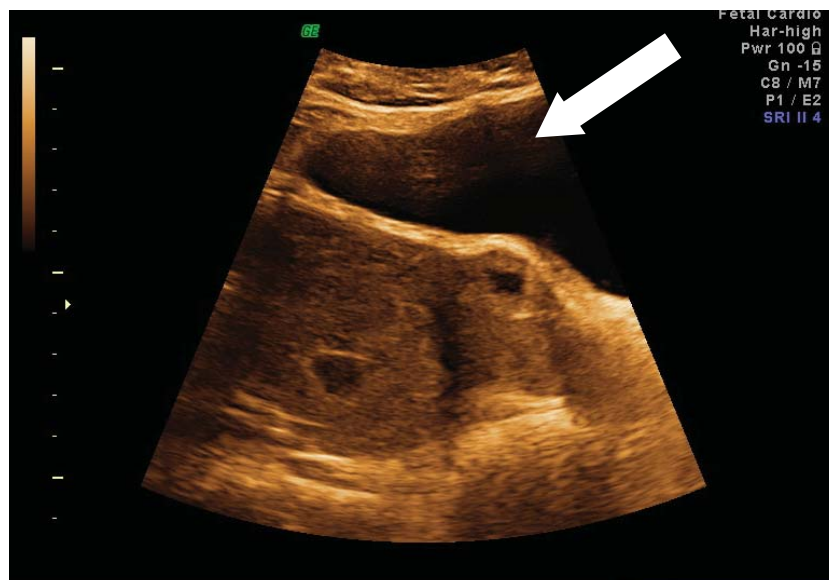


Figure 1: Trans-abdominal image of an axial uterus and heterotopic pregnancy. Note the concurrent intra-uterine pregnancy and caesarean scar ectopic pregnancy, the lack of myometrium around the caesarean scar ectopic pregnancy (arrow), and the bulge of the lower uterine segment into the bladder wall.

Case report

A 32-year-old Gravida 4 Para 3 woman presented to the imaging department of a regional hospital for a dating scan. She had a history of 3 previous lower section caesarean sections (LSCSs). The sonographer performing the ultrasound scan became suspicious there was a heterotopic pregnancy involving both the intra-uterine cavity and the previous caesarean section scar. She contacted our unit. The woman was reviewed the same afternoon.

Ultrasound findings

Imaging was performed both transabdominally and transvaginally. Transabdominal imaging demonstrated an axially orientated uterus with a normally implanted gestational sac, and a second gestational sac that appeared to be in the region of the cervico-isthmic junction causing the contour of the lower uterine segment to

bulge toward the bladder (Fig. 1). Transvaginal imaging demonstrated live embryos in both gestational sacs, with CRL 2.5 mm (5w 6d). One gestational sac was normally implanted within the uterus, while the second gestational sac in the region of the cervico-isthmic junction had very little myometrium surrounding it (Fig. 2). This gestational sac was also well perfused on Doppler imaging. These findings were diagnostic of a heterotopic pregnancy with the extra-uterine pregnancy being located in the lower anterior myometrium at the level of the previous caesarean section scar¹. Management options include treatment with systemic methotrexate, and selective embryocide of the caesarean section scar pregnancy (CSEP) with potassium chloride². After counselling, the couple chose the latter option, with the aim of preserving the intra-uterine pregnancy. Currently there is an ongoing 20 week intra-uterine pregnancy.



Figure 2: Transvaginal image of heterotopic pregnancy. Note the concurrent intra-uterine pregnancy and caesarean scar ectopic pregnancy in a retroverted uterus. Please observe the lack of myometrium around the caesarean scar ectopic pregnancy (arrow).

Discussion

Early transvaginal ultrasound diagnosis of a heterotopic pregnancy involving a previous caesarean section scar is critical in the management. *As in this case, this enables conservative management strategies to be implemented in women who are clinically stable at the time of ultrasound diagnosis¹. Haemodynamic instability dictates that surgical intervention be adopted. Lower abdominal pain and vaginal bleeding are frequent symptoms in a woman with a CSEP, although a significant number of women are asymptomatic. Diagnosis is made by primarily by transvaginal ultrasound^{2,3}.

The incidence of spontaneous heterotopic pregnancy involving a caesarean section scar is extremely rare indeed and depends on the rate of this form of ectopic pregnancy and dizygotic twinning. *There is no doubt that such heterotopic pregnancies are more common in women undergoing Assisted Reproductive Technologies (ARTs) with a history of previous caesarean section scar^{4,5}. Once considered a rare form of ectopic pregnancy, CSEPs have become more common as the caesarean section rate has increased. In Australia, the caesarean section rate has shown an overall upward trend in the last 10 years from 21.8% in 1999 to 31.1% in 2008⁶. The reported incidence of an ectopic pregnancy in a previous caesarean section scar is 1:1800 to 1:2216 pregnancies⁷, and accounts for 6% of ectopic pregnancies among women who have had a previous caesarean section¹. There is no correlation between the number of previous caesarean sections and the likelihood of a caesarean section scar implantation¹.

There is a correlation between maternal age and caesarean section rates. In 2008, 46.9% of Australian women over 40 underwent delivery by caesarean section³. ARTs aside, dizygotic twinning rates also increase with increasing maternal age⁸. In Australia the proportion of older mothers (35 and over) has continued to increase⁶. These factors combine to make the rare

presentation of a heterotopic pregnancy involving a caesarean section scar something we may encounter more often.

*Editor's comment

Acknowledgements

The Fetal Medicine Unit would like to acknowledge Rachelle Medway AMS from Goulburn Base Hospital, whose recognition of the ultrasound features of this rare condition led to prompt treatment and preservation of the intrauterine pregnancy. The Fetal Medicine Unit would also like to acknowledge Dr Tom Boogert from Royal Prince Alfred Hospital who counselled the patient and performed the selective embryocide.

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