Caesarean scar ectopic pregnancy is a rare pregnancy complication with an estimated incidence of 1/1800 to 1/2500 pregnancies. Complications include uterine rupture, massive haemorrhage, placenta accrete, and pregnancy loss. Ultrasound examination is usually the first-line investigation. Magnetic resonance imaging (MRI) serves as a powerful confirmation tool. With its inherent superior tissue contrast and multplanar capability, MRI depicts anatomical details with robust reproducibility.

Caesarean scar ectopic pregnancy is associated with a high risk of uterine rupture and uncontrollable haemorrhage. Expectant management is possible but not advocated. Surgical treatment leads to quicker postoperative recovery but may be associated with major haemorrhage. Other treatment includes systemic methotrexate and uterine artery embolisation.

A high index of suspicion is required to diagnose this condition so that timely treatment can be initiated and life-threatening complications from a ruptured ectopic pregnancy prevented.

Case

A 34-year-old woman with a history of Caesarean section presented to the emergency department with per vaginal bleeding. Her pregnancy was 7 weeks of gestation by date.

On vaginal examination, the cervical os was closed and mildly blood-stained. She was haemodynamically stable with a normal haemoglobin of 12.9 g/dL and beta–human chorionic gonadotropin 15877 mIU/mL. Transvaginal ultrasound revealed a single intrauterine gestational sac in the lower segment of the uterus, closely related to the myometrium (Fig 1). The fetal pole with positive fetal heart beat was identified. Crown to rump length was 11 mm, corresponding with 7 weeks and 1 day of gestation. The anterior uterine wall adjacent to the gestational sac was very thin with a thickness of only 4 mm (Fig 2). However, it was uncertain whether the placenta was directly implanted onto the Caesarean scar. A provisional diagnosis was made of pending abortion or Caesarean scar ectopic pregnancy. Magnetic resonance imaging of the pelvis was performed to determine whether the thin layer of soft tissue at the anterior uterine wall represented myometrium in the Caesarean scar with placental implantation elsewhere or if the placental tissue was implanted directly onto the scar.

Magnetic resonance imaging showed a 1.7-cm defect at the anterior lower segment of the myometrium, corresponding to the Caesarean section scar. It was distended by a gestational sac. A singleton pregnancy was identified with crown-rump length consistent with gestational age. Trophoblastic tissue was seen implanted onto the serosa of the uterus (Fig 3). Overall MRI findings were compatible with Caesarean scar ectopic pregnancy. There was no
direct extension of trophoblastic tissue into adjacent organs such as the urinary bladder or sign of uterine rupture (Fig 4).

The superior contrast resolution in MRI for different soft tissues is advantageous in the differentiation of uterine serosa, myometrium, endometrium, and trophoblastic tissue. This helped confirm the diagnosis of Caesarean scar ectopic pregnancy in our patient and would have been difficult if only ultrasound findings were available.

The patient received intramuscular methotrexate therapy. Serial beta–human chorionic gonadotropin levels showed a decreasing trend. Subsequent definitive treatment with suction evacuation was performed. The patient made an uneventful recovery.

Author contributions
Concept and design of the study: All authors.
Acquisition of data: EMF Wong, W Shu.
Analysis and interpretation of data: EMF Wong, W Shu.
Drafting of the manuscript: JAWK Tang.
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Declaration
All authors have disclosed no conflicts of interest. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

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