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CASE REPORT

Ruptured Ectopic Pregnancy after Previous Hysterectomy: a Case Report

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INTRODUCTION

Pregnancy-associated complications would not usually be considered among differential diagnoses in a patient with a previous history of hysterectomy. Nonetheless such cases are not rare and may include ruptured ectopic pregnancy.

CASE REPORT

A 41-year-old woman presented to the emergency department with lower abdominal pain and hypotension. She had a history of previous emergency Caesarean section 1 year previously with subsequent abdominal hysterectomy including the posterior lip of cervix secondary to severe pre-eclampsia and placenta accreta. She had no bowel or urinary symptoms and no per-vaginal bleeding. A pregnancy test was carried out and was positive. Bedside ultrasonography in the emergency department showed free fluid in Morrison's pouch. A gynaecologist was consulted and urgent computed tomography (CT) scan performed.

Review of CT revealed moderate haemoperitoneum with a thick-walled cystic mass over the left adnexal region (Figure 1). The mass was highly vascular with feeding vessels from the left ovarian artery. No product

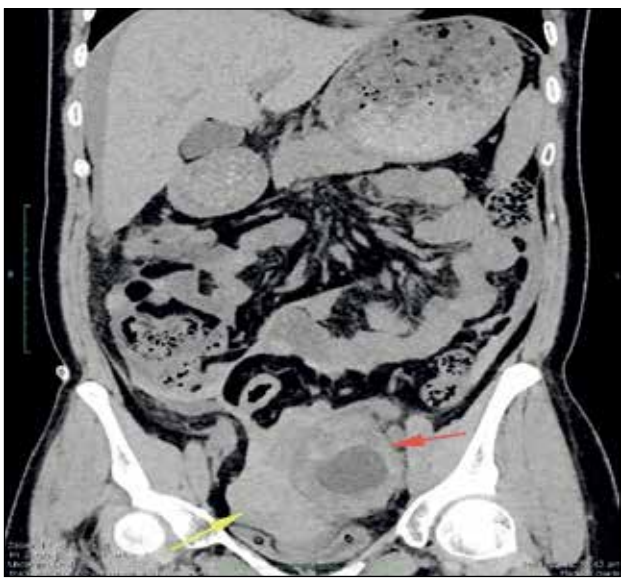

Figure 1. Non-contrast coronal computed tomography image showing haemoperitoneum (yellow arrow) and a thick-walled left adnexal cyst (red arrow).

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Ethics Approval: The patient was treated in accordance with the tenets of the Declaration of Helsinki. Informed verbal consent was obtained via telephone contact due to COVID-19 restrictions.

of gestation was evident inside the mass and no sentinel bleeding site was identified but contrast pooling with layering was noted at the pelvis, suggestive of active bleeding (Figure 2). Other gastrointestinal structures and the urinary tract were unremarkable. The provisional diagnosis was bleeding ovarian tumour.

Emergency laparoscopic surgery was performed a few hours later. Intra-operatively, an 8-cm left adnexal mass with active bleeding from a 1-cm rupture site was noted. No normal left ovarian tissue could be identified and left salpingo-oophorectomy was performed. A normal left ovary and 1.5-cm fetal pole were seen inside the left adnexal mass. A diagnosis of ruptured ectopic pregnancy was thus confidently made and tubal pregnancy confirmed by pathology.

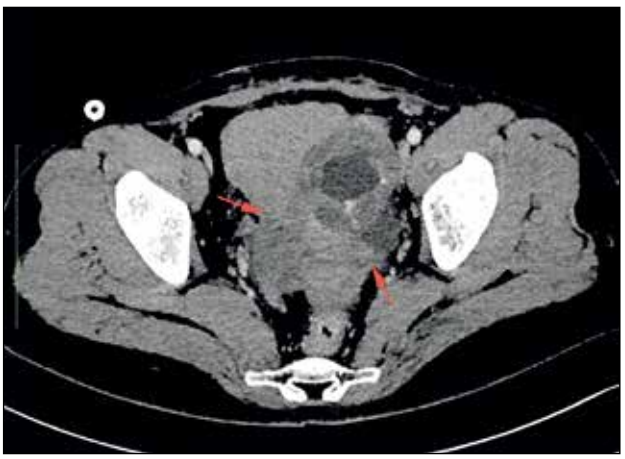

Figure 2. Axial computed tomography image at portovenous phase showing contrast pooling and layering, in keeping with ongoing bleeding.

DISCUSSION

Given the history of previous hysterectomy, the possibility of ectopic pregnancy was not considered. Nonetheless with the finding of free intraperitoneal fluid, lack of trauma history and positive pregnancy test, this possibility should not have been excluded. Ultrasonography is readily available with the advantages of being real-time and equipped with Doppler function, facilitating the diagnosis of ectopic pregnancy. Ultrasonography of the pelvis in this patient enabled detection of the thick-walled left adnexal cystic lesion. Ectopic pregnancy would be subsequently diagnosed if there was a heartbeat suggesting a viable fetus within the lesion or 'ring of fire' appearance around the lesion with low resistance flow (Figure 3). Although ultrasonography is superior to CT in diagnosing pregnancy, the thicker pole of the cyst wall that was evident on CT is suggestive of pregnancy, representing the placenta/chorion frondosum,[1] as shown on Figure 4.

Some studies have demonstrated a higher rate of vaginal-to-peritoneum tract formation for Caesarean hysterectomy,[2-5] as in our patient. Cervical dilatation at the time of Caesarean section often results in a remnant of cervix or larger vaginal vault that increases

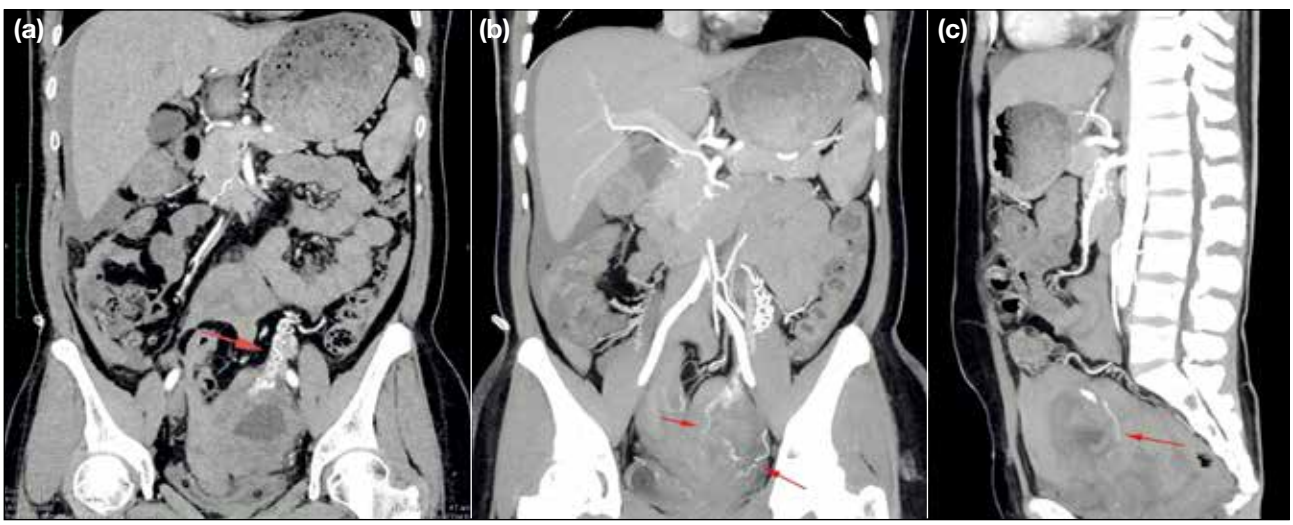

Figure 3. (a) Coronal computed tomography image at arterial phase showing several feeding vessels from the tortuous ovarian vessels (red arrow). Maximum intensity projection computed tomography (b) coronal and (c) sagittal images showing appearance mimicking "ring of fire" (red arrows).

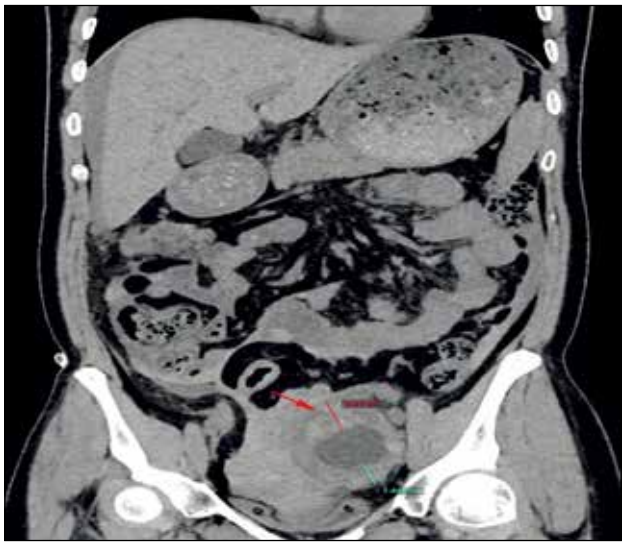

Figure 4. Non-contrast coronal computed tomography image showing thicker pole of cyst wall (red arrow) representing placenta/chorion frondosum.

the probability of communication between the vagina and peritoneum with consequent creation of a possible pathway for fertilisation. To prevent this, the residual cervical canal should be obliterated or isolated surgically.

CONCLUSION

With proper ultrasonography, early diagnosis of ectopic pregnancy in patients with prior hysterectomy can be made. This will enable early surgical intervention to save patients who are often young and otherwise healthy.

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