Laparoscopic repair of uterine rupture diagnosed in the early postpartum period

Dear editor,

Uterine rupture is a rare complication that may be associated with significant maternal and fetal mortality. A previous uterine scar, especially from a previous caesarean section, is the most common predisposing factor and is estimated at 0.5% in these women [1].

A 27-year-old G2P1, with a history of uncomplicated low segment transverse cesarean delivery due to fetal distress, presented at 40th weeks of gestation to the delivery room in labor. Immediately after a normal spontaneous vaginal delivery of a well-appearing, 3612 g female with Apgar scores ($9^1/9^5$), the woman had massive bleeding and hypotension. The placenta delivered spontaneously and was intact. Postpartum hemorrhage was attributed to multiple vaginal tears which were sutured along with fluid resuscitation and IV 1 g of Tranexamic acid. Following treatment, bleeding stopped and vital signs were within normal range except for mild tachycardia of 110 bpm. Bedside transabdominal ultrasound was normal with no placental residua, nor free fluid. Estimated blood loss was 3.000 ml, laboratory tests showed hemoglobin decrease from 12.1 to 8.2 g/dL. The parturient was transferred to the post-anesthesia care unit (PACU) for continuous supportive care; 12 h after delivery, the woman complained of abdominal pain. Vital signs were normal, however on physical examination severe abdominal tenderness with peritoneal irritation signs. Repeat transabdominal ultrasound scan showed anterior uterine wall interruption with left broad ligament hematoma, with minimal free fluid demonstrated in the Douglas pouch (Fig. 1). Due to maternal hemodynamically stability, the woman consented for a laparoscopy, including the possibility of laparotomy and hysterectomy.

Operative findings included organized hematoma over the left lower uterine segment transverse uterine scar rupture approximately 2.5 cm in length. Scar debridement was performed and the defect corrected by two layers V-LOC absorbable barbed sutures (Covidien, Minneapolis, MN). Postoperative recovery was uneventful with discharge on postoperative day three.

Intrapartum uterine rupture is diagnosed in about one-fifth of all cases following a vaginal delivery, during the early postpartum period [2,3]. In our recent study, among women with postpartum diagnosis of uterine rupture rates of hysterectomy were higher than women with intrapartum diagnosis (37.9% vs. 5.3%, $p < 0.01$) mostly because of extensive uterine ruptures and the fragility of the tissue [4]. Laparoscopic management of uterine rupture following second-trimester medical abortion was previously reported [5] This case demonstrated that laparoscopic repair of term uterine rupture is a possible approach among hemodynamically stable women with less morbidity and shorter recovery period.

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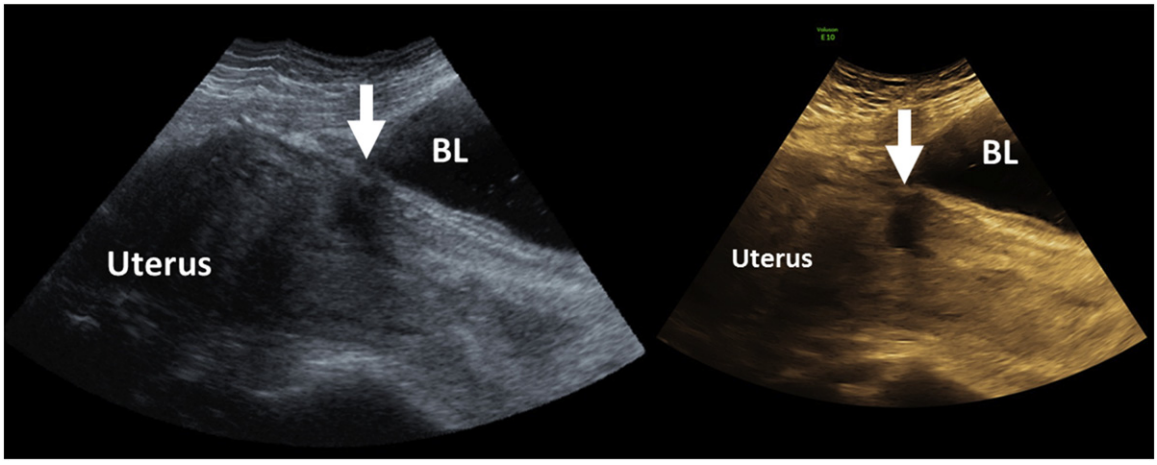

Fig. 1. Transabdominal ultrasound images showing uterine wall defect (arrow) in the anterior aspect. BL-Bladder.

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Patient consent form has been completed and signed by the patient.

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Takotsubo cardiomyopathy occurring concomitantly with uterine rupture due to caesarian scar pregnancy: A case report

Dear Editor,

We found that Takotsubo cardiomyopathy (TCM) can be a rare manifestation of uterine rupture due to caesarian scar pregnancy (CSP). Although peripartum TCM has been previously reported, early second trimester diagnosis triggered by CSP- associated uterine rupture is an extremely rare occurrence. In this case, to the best of our knowledge, we report the first patient with TCM triggered by haemorrhage from CSP-associated uterine rupture.

A 33-year-old G3P2 healthy female at 16 weeks' gestation presented to the emergency unit with abdominal pain and vaginal bleeding. She reported a 1-day history of vaginal bleeding and abdominal pain, which on admission had localized to the hypogastric region. Vitals were unremarkable and she was afebrile. Physical assessment revealed local tenderness without guarding or rebound. Pelvic examination could not be performed. Laboratory tests showed mild anemia. However, transvaginal ultrasound demonstrated a blighted ovum adjacent to the caesarian scar.

Clinical and ultrasound findings were suggestive of CSP. In view of the increasing vaginal bleeding a dilatation and curettage (D&C) was carried out but electrocardiogram (ECG) tracing mimicking myocardial infarction was detected. Both coronary angiography and cardiac echocardiography were performed confirming the diagnosis of TCM (Fig. 1). The patient was discharged on the 43rd postoperative day following: 1) additional D&C due to excessive vaginal bleeding on the 14th postoperative day, 2) subtotal hysterectomy on the 14th postoperative day due to uncontrollable vaginal bleeding, and 3) right adnexectomy due to ipsilateral necrosis on the 28th postoperative day. Heparin induced thrombocytopenia (HIT) was diagnosed on the 16th postoperative day. The histological diagnosis was total uterine rupture due to CSP.

TCM is often triggered by emotional or physical stress but is rarely diagnosed in pregnancy. Differential diagnosis is challenging due to similar presentation to acute coronary syndrome, peripartum cardiomyopathy or pulmonary thromboembolism. Increased parity is not an independent risk factor but use of tocolytic agents during multiple pregnancies could be associated with TCM. A mean maternal age of 33 (detection range: 24–42) has been reported [1]. Most cases start perinatally and approximately 1/3 appear intraoperatively [2]. If the correct diagnosis is reached, TCM cases occurring perinatally have favorable outcome and full recovery is made within four months.

CSP has an incidence of 1:1800 to 1:2226 (0.05–0.04%) of all pregnancies but a rate of 0.15% in patients after at least one caesarean section (CS) and 6.1% of all ectopic pregnancies [3]. It is uncertain whether the risk of CSP is related to the number of previous CSs [4].

Although TCM association with pregnancy has been previously documented, it usually develops during labor or post-partum. Antenal TCM has been linked to hyperadrenergic status and synchronous preeclampsia development in 50% of all cases [5]. It is uncertain if antenatal TCM is associated with any risk factors or adverse perinatal outcome [2].

TCM in pregnancy seems to be underreported and no recurrence rate in subsequent pregnancy has been published. The pathophysiology mechanism is still not completely understood. Perioperatively, adrenergic stimulants and anticholinergics agents should be used carefully and adequate volume substitution prior to the onset of spinal analgesia should be provided. Since there are no pathognomonic symptoms, echocardiography is required for the diagnosis.