Pelvic haematoma requiring angioembolisation following operative vaginal delivery; a case study.

Fitt E, Lu AB
Monash Women's, Monash Health, Victoria
Corresponding author: Dr Emily Fitt (emily.fitt@monashhealth.org)

Background

Puerperal haematomas affecting the vulva, vagina, and paravaginal spaces can present complex management challenges and cause significant morbidity for postpartum women. Risk factors for this rare and potentially life-threatening complication include nulliparity, pre-eclampsia, instrumental delivery, birth weight >4kg, prolonged second stage, multifetal pregnancy, clotting disorders and vulval varicosities[1]. Angioembolisation has been shown to be effective in up to 98% of cases refractory to conservative and operative management[2].

Case

A 36-year-old primipara was induced at 38+6 weeks' gestation for evolving pre-eclampsia. After slow progress in second stage with fetal malposition, she underwent a manual rotation and mid-cavity forceps delivery in theatre with a 3.5kg liveborn female delivered in good condition. A postpartum haemorrhage of 900mL from atony was medically managed with appropriate uterotonics and tranexamic acid, and the episiotomy was repaired in a routine manner. A vaginal haematoma was diagnosed several hours postpartum and initially managed conservatively with observation and analgesia. However, surgical management of the haematoma became indicated due to suspected ongoing bleeding with falling haemoglobin levels (121g/L to 63g/L over several hours), tachycardia with otherwise unremarkable vital signs, and increasing vulvovaginal pain. Operative vaginal evacuation of the haematoma and ligation of the bleeding vessel was unsuccessful due to massive soft tissue swelling obstructing the vagina and inhibiting the surgeons' ability to identify and treat the source of bleeding.

A CT angiogram post-operatively demonstrated active bleeding from a small artery arising from the pubic branch of the right inferior epigastric artery. Given her relative haemodynamic stability and the earlier failed attempt at operative management, she proceeded to a successful radiological embolization with 2-3mm coils after an initial attempt with Gelfoam. A follow-up CT two days later confirmed no further extravasation. Transfusion of six units of packed red blood cells achieved haemoglobin stability at 91g/L. The patient and her baby were discharged home well on day six postpartum with no clinical or patient concerns at a six-week postnatal review.

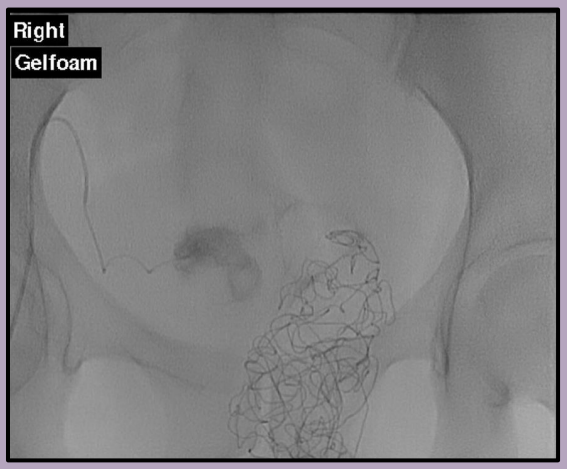

Figure 1: *Persistent extravasation post Gelfoam insertion*

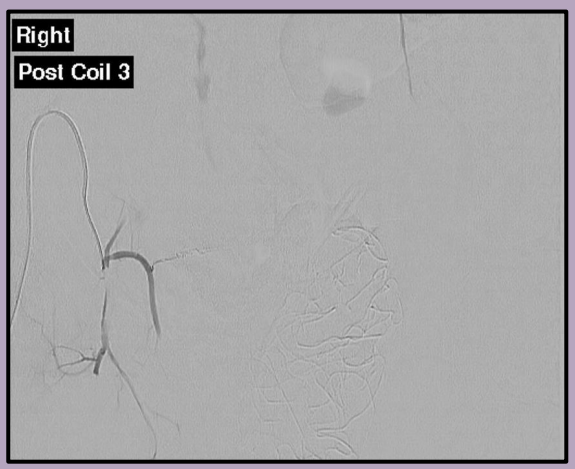

Figure 2: *Successful control of extravasation post coil insertion*

Discussion

Puerperal haematomas are an uncommon but potentially significant complication of birth due to associated maternal morbidity. This case demonstrates the benefits of timely collaboration with interventional radiology where usual conservative and surgical strategies are unsuccessful. In this case where the implicated vessel was a branch of the inferior epigastric artery, it is unlikely to have been easily laparoscopically or vaginally accessible even without the extreme vulvovaginal swelling which prohibited operative attempts. Effective and timely collaboration between specialties allowed prompt control of the active bleeding and prevented further clinical deterioration.

References

[1] Alturki F, et al. Spontaneous Retroperitoneal Hematomas Following Uncomplicated Vaginal Deliveries: A Case Report and Literature Review. JOGC (2018)
[2] Lee, S.M., et al. Postpartum haemorrhage due to genital tract injury after vaginal delivery: safety and efficacy of transcatheter arterial embolisation. Eur Radiol (2018)