

Recurrent severe uterine bleeding: uterine arteriovenous malformation (UAVM) managed with uterine artery embolization (UAE)

Alexandra Cameron¹, Elise Hayles², Kevin Hayes³

¹ 5th Year Medical Student, St. George's University of London, United Kingdom. ² Senior Clinical Fellow, Acute Gynaecology Unit, St. George's University Hospital, NHS Foundation Trust, London, United Kingdom. ³ Obstetrics and Gynaecology Consultant, St. George's University Hospital, NHS Foundation Trust, London, United Kingdom

Introduction

- UAVMs are rare
- Uterine trauma is most common cause
- Can cause severe uterine bleeding
- Refractory bleeding formerly managed with hysterectomy

Objective

- Patient diagnosed with large UAVM, successfully treated with UAE.
- Significance: rarity of UAVM, potential life-threatening consequences.
- Fertility-sparing definitive treatments now available

Case report

- 20-year-old G1P0, 18 months irregular heavy PV bleeds
- Multiple admissions for blood transfusions
- 20-months prior: SMM
- Repeated TVUSs: thin endometrium
- Hysteroscopy: normal endometrial cavity
- Mirena IUS inserted but expelled by heavy bleeding.
- On admission: Hb 50g/L.
- MRI and contrast-CT: probable UAVM.

- TVUS: 21x18x23mm fundal myometrial mass (*fig. 1*), mixed venous-arterial flow, apparent unilateral arterial feed, consistent with UAVM (*fig. 2*).

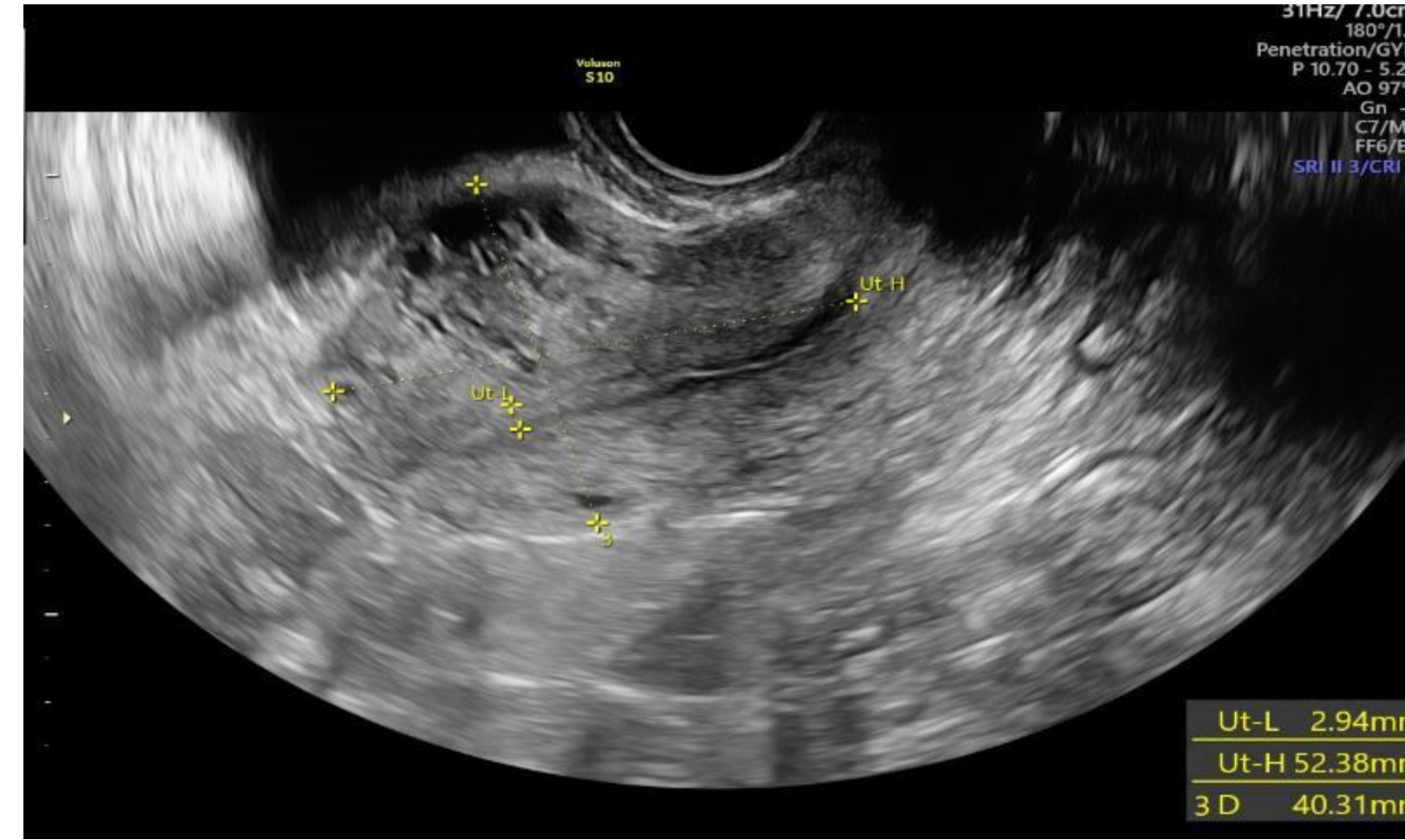


Figure 1: Cystic mass in anterior myometrium

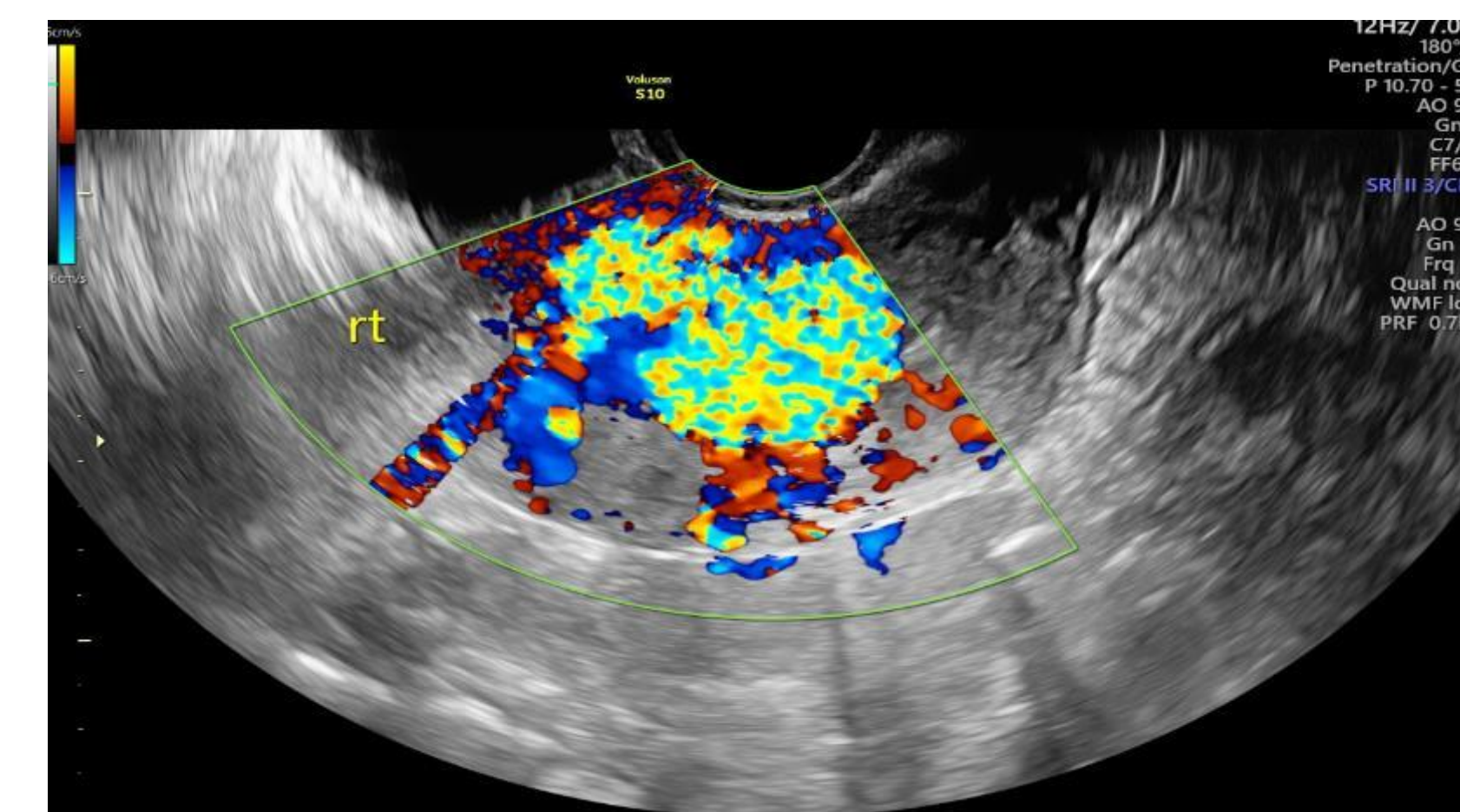


Figure 2: Colour doppler in longitudinal view, mixed flow 'colour mosaic' with feeding vessel on right.

- Diagnosis: Angiography showing unilateral supply from right uterine artery. (*fig. 3*)
- Management: right uterine artery selectively embolised
- Post-procedure angiogram: complete exclusion of UAVM (*fig. 4*)



Figure 3: supply from multiple branches of right uterine artery and early venous drainage

“UAE is an effective, fertility-sparing treatment for UAVM”



Figure 4: post embolisation, complete exclusion of the UAVM

- Post op: good recovery, discharged next day, follow-up in 2 months.

Discussion

- Consider UAVM in acute heavy bleeding after uterine trauma/ instrumentation.
- Delayed diagnosis: haemorrhage, multiple admissions, unnecessary investigations/intervention.
- UAVM on TVUS: enhanced myometrial vascularity, tortuous vessels, high velocity flow.
- Clinically stable patients: Expectant management
- UAE indicated: minimally-invasive, fertility sparing, may avoid hysterectomy.

Discussion cont.

- Post UAE uterine ischaemia: proven collateral reperfusion
- Miscarriage risk unclear: conflicting results, most evaluated UAE for fibroids
- Perinatal considerations: no UAVM recurrence, close placental monitoring
- Future fertility often primary patient concern- effective counselling vital

Conclusion

- Overlooking UAVM as recurrent PV bleed differential leads to repeat admissions and delayed diagnosis.
- UAE is an effective treatment for UAVM
- Further research: fertility/ perinatal impacts of UAE for UAVM.

References

1. Ruiz Labarta FJ, Pintado Recarte MP, González Leyte M, Arribas CB, Álvarez Luque A, Cuñarro López Y, et al. (2022) Uterine Artery Embolization of Uterine Arteriovenous Malformation: A Systematic Review of Success Rate, Complications, and Posterior Pregnancy Outcomes. *Journal of Personalized Medicine*; **12**(7):1098.
2. Homer H, Saridogan E. (2010) Uterine artery embolization for fibroids is associated with an increased risk of miscarriage. *Fertility and Sterility*; **94**(1):324–30.
3. Pron G, Mocarski E, Bennett J, Vilos G, Common A, Vanderburgh L. Pregnancy After Uterine Artery Embolization for Leiomyomata. *Obstetrics & Gynecology*; **105**(1):67–76.

Contact: Elise Hayles: elise.hayles@nhs.net