

Purpose: Uterine vascular lesions are a life-threatening cause of vaginal bleeding in obstetric patients and can present a diagnostic challenge due to overlapping features and occasional co-existence.

Materials & Methods: A 35-year-old G4P2022 female presented with vaginal bleeding following a medical abortion 3 months ago. A transvaginal pelvic US suggested RPOC or endometrial cancer, while a subsequent magnetic resonance angiogram (MRA) of the pelvis was suspicious for AVM. Interventional Radiology was consulted for UAE of the AVM.

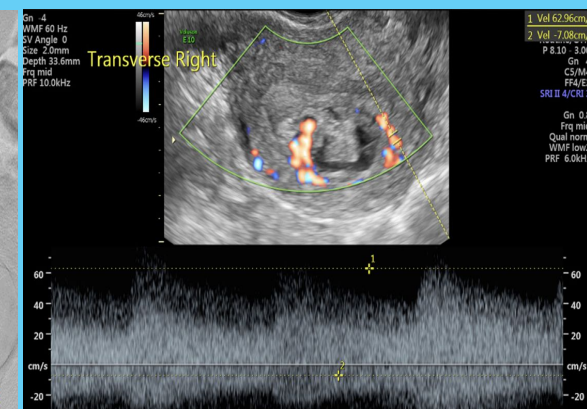
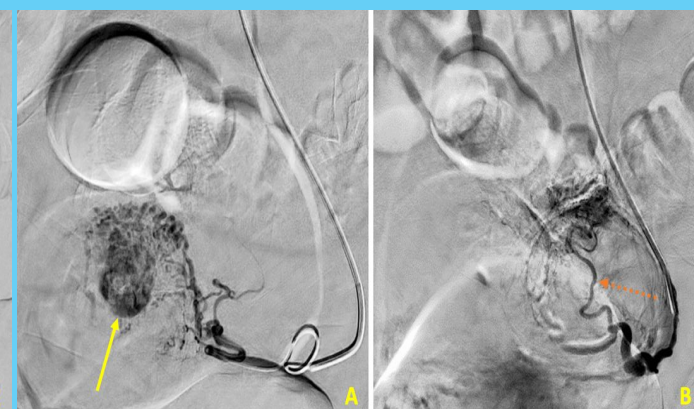
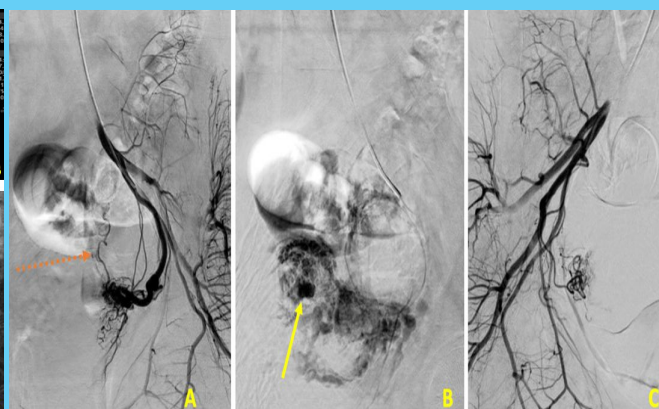
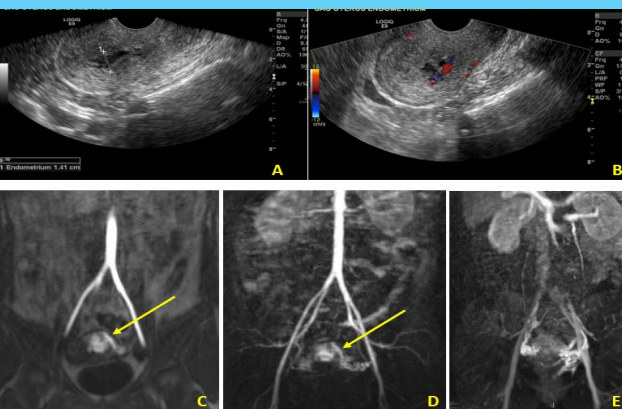


Figure 1: Pre-angiographic imaging. Transvaginal US in greyscale (A) and color doppler (B), and coronal MRA in early (C), mid (D), and delayed (E) phases of enhancement. Tubular hypoechoic structure in a thickened endometrium (A), corresponding to region of increased vascularity on Doppler imaging (B). Subsequent MRA reveals the hypervascular uterine structure (arrow) arising from the left uterine artery, concerning for a vascular malformation based on appearance during different phases of enhancement.

Figure 2: Angiograms obtained from the left internal iliac artery (A, B) and right internal iliac artery (C) with a 4 French vertebral catheter. Left internal iliac artery angiogram demonstrated a hypertrophied left uterine artery with a proximal branch (dashed arrow) supplying the left ovary. The distal aspect of the left uterine artery demonstrated a sacular structure consistent with a pseudoaneurysm (solid arrow). Right internal iliac artery angiogram (C) demonstrates a normal appearing right uterine artery without evidence of supply to vascular lesion seen on MRA.

Figure 3: The left uterine artery was catheterized with a 2.4 French microcatheter, which was navigated past the left ovarian artery branch. Angiogram (A) performed past the origin of the left ovarian artery demonstrates sacular vascular malformation arising from the distal aspect of the artery, consistent with a pseudoaneurysm (solid arrow). The uterine artery was embolized from this point with gelatin sponge. Post embolization angiography (B) demonstrates stasis of flow in the distal uterine artery and no flow within the hypervascular structure, with preservation of the left ovarian artery (dashed arrow).

Figure 4: Doppler transvaginal US of the uterus obtained 2 weeks post embolization demonstrates persistent vascularity and flow within the endometrium, consistent with retained products of conception. The patient underwent removal of the retained products, with minimal blood loss post embolization.

Results: Left radial artery access was obtained, and a 5-French slender sheath was placed. A 4-French vertebral catheter and a Benson wire were used to navigate the arterial system into the pelvis and uterine arteries. Intraprocedural uterine angiography demonstrated a left uterine artery pseudoaneurysm, without evidence of early venous filling. A 2.4-French microcatheter was used to navigate distal to the origin of the left ovarian artery, and the distal portion of the uterine artery was embolized with gelatin sponge. Angiography of the right uterine artery was unremarkable. A 2-week follow-up pelvic US demonstrated RPOC, which was later managed by US-guided D&C/E, with less than 5 cc of blood loss, and confirmed on pathology. Post-operatively, the patient denied vaginal bleeding and her B-hcg measured less than 1, decreased from 42 on initial presentation.

Conclusion: Our case demonstrates the utility of pelvic angiography in the characterization of uterine vascular lesions, revealing a pseudoaneurysm that was not well-delineated on diagnostic imaging. It also suggests the helpfulness of empiric UAE in the setting of RPOC, particularly given its coexistence with uterine vascular lesions, which inherently worsen intra-operative blood loss associated with D&C/E.