

A Gynaecological Mystery: Navigating a Suspected Uterine Arteriovenous Malformation Versus a Vascular Fibroid

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Introduction

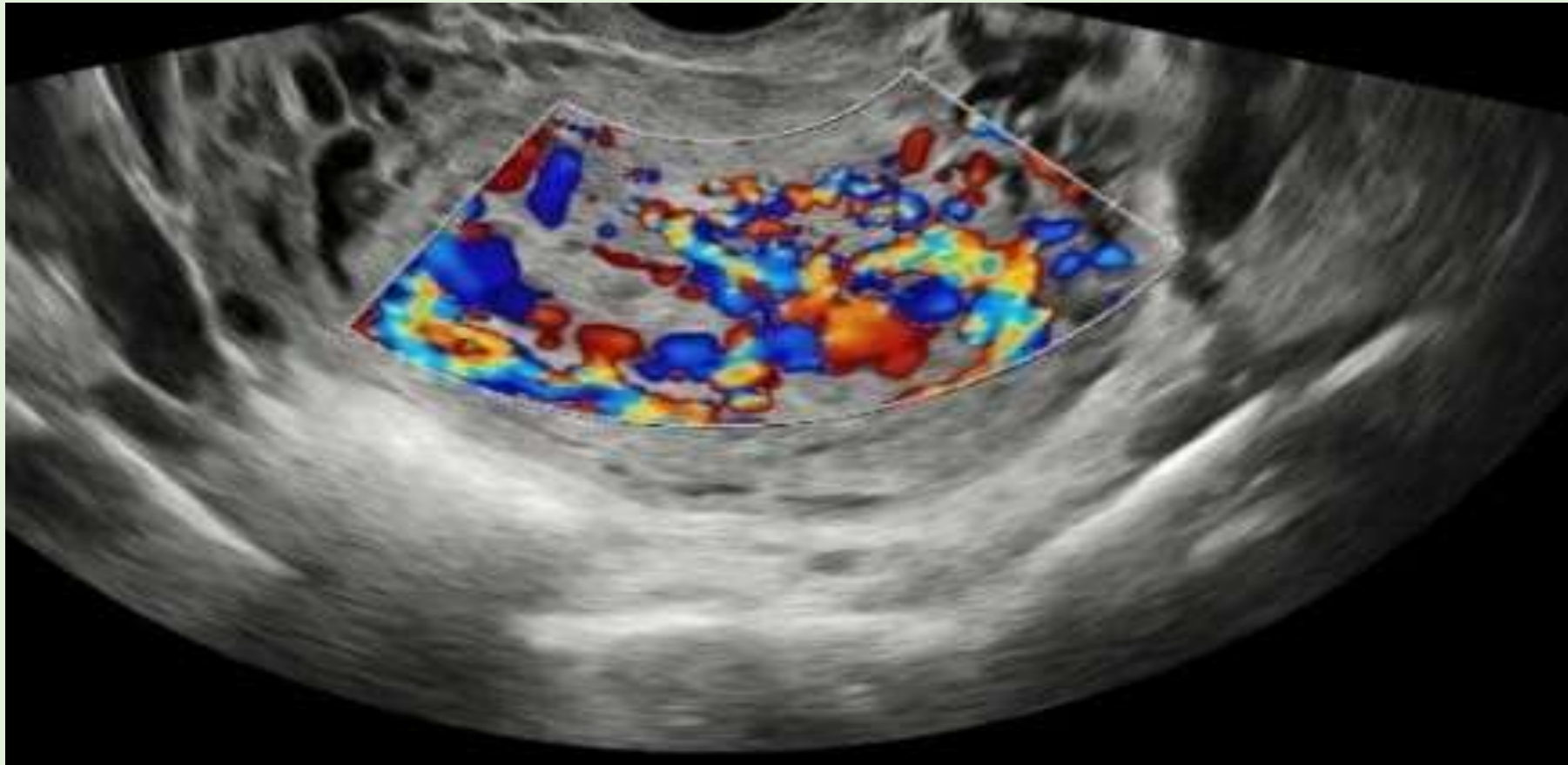
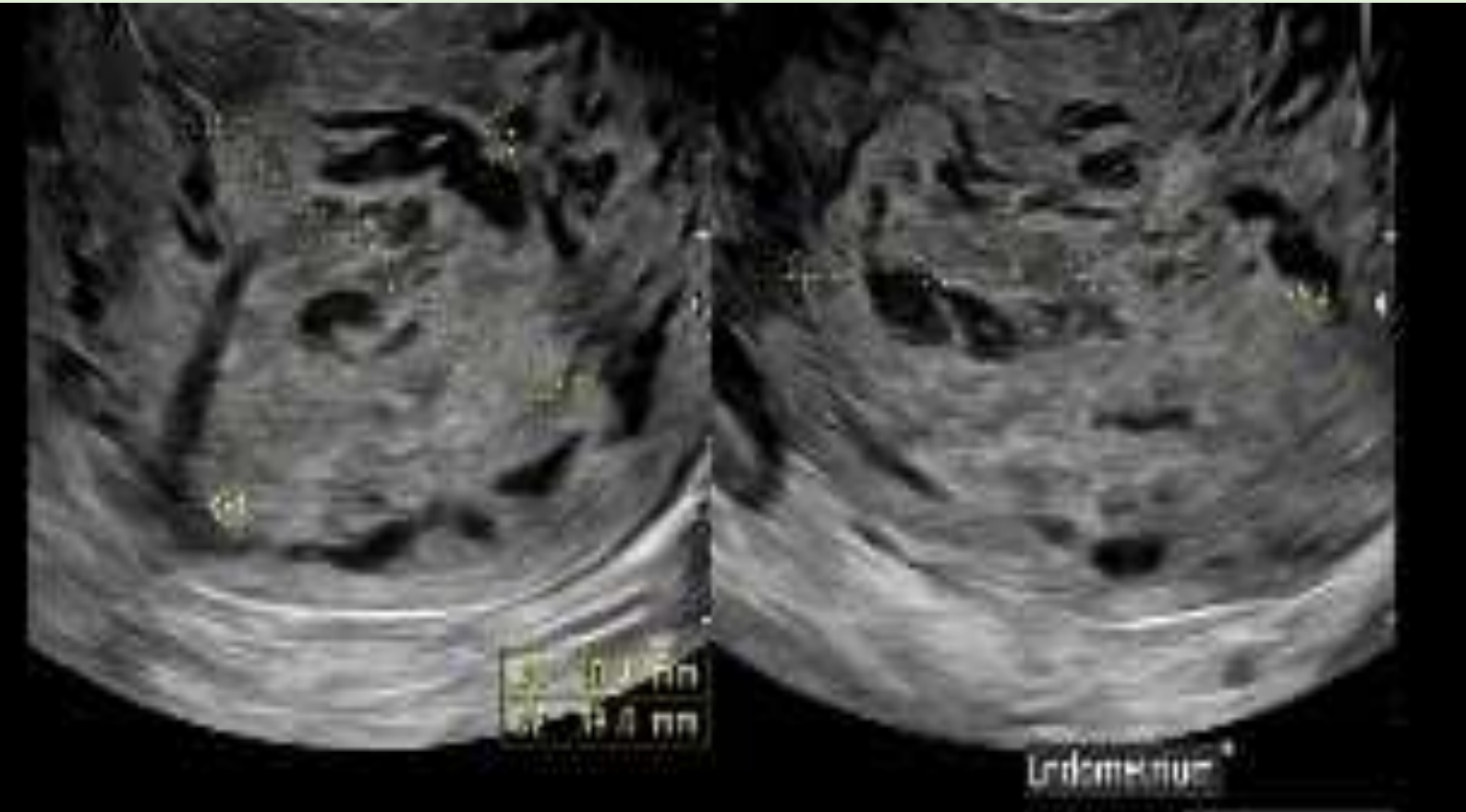
Uterine arteriovenous malformations (AVMs) and vascularised fibroids can present similarly on imaging, both showing hypervascular uterine lesions. While AVMs are rare but potentially life-threatening, fibroids are common benign tumours [1] . Accurate diagnosis is critical, as management strategies differ, and misdiagnosis can lead to unnecessary or harmful interventions [2] . This case highlights the diagnostic dilemma between these two entities.

Objectives

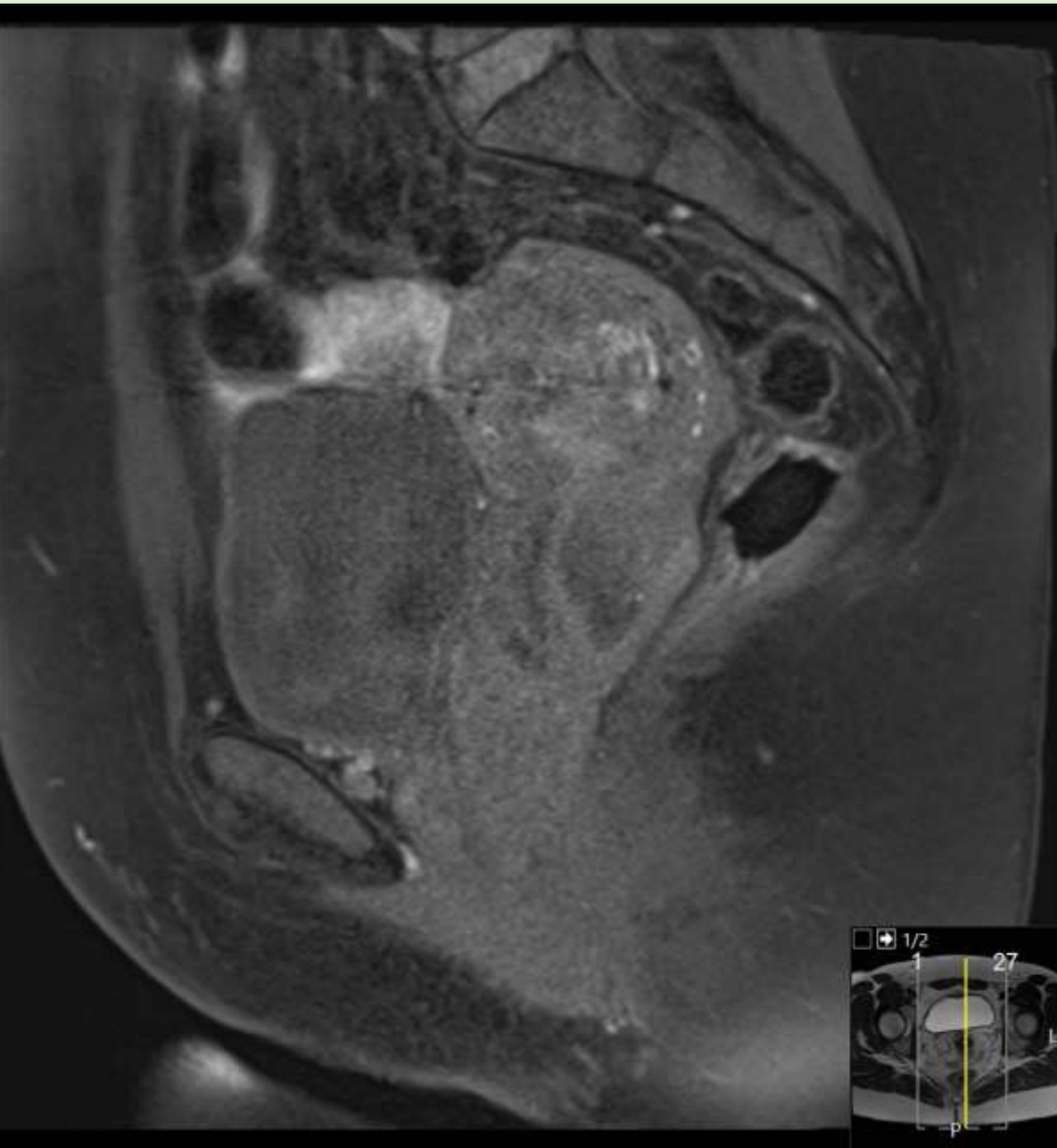
- ✓ Highlight the diagnostic challenges in differentiating uterine AVMs from vascularised fibroids.
- ✓ Describe the clinical decision-making process in managing a patient with an unresolved diagnosis despite multimodal imaging.
- ✓ Emphasise the importance of a multidisciplinary approach to avoid unnecessary or inappropriate interventions.

Case Report

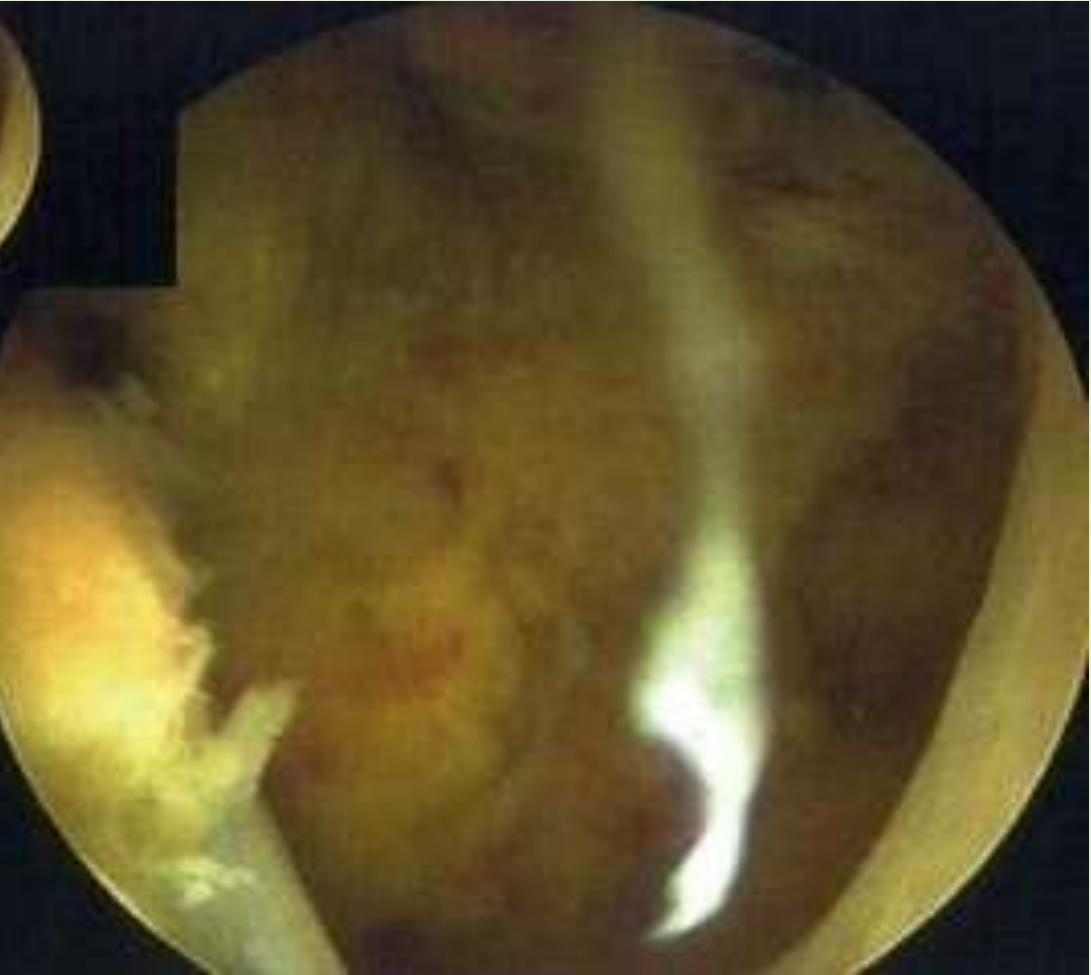
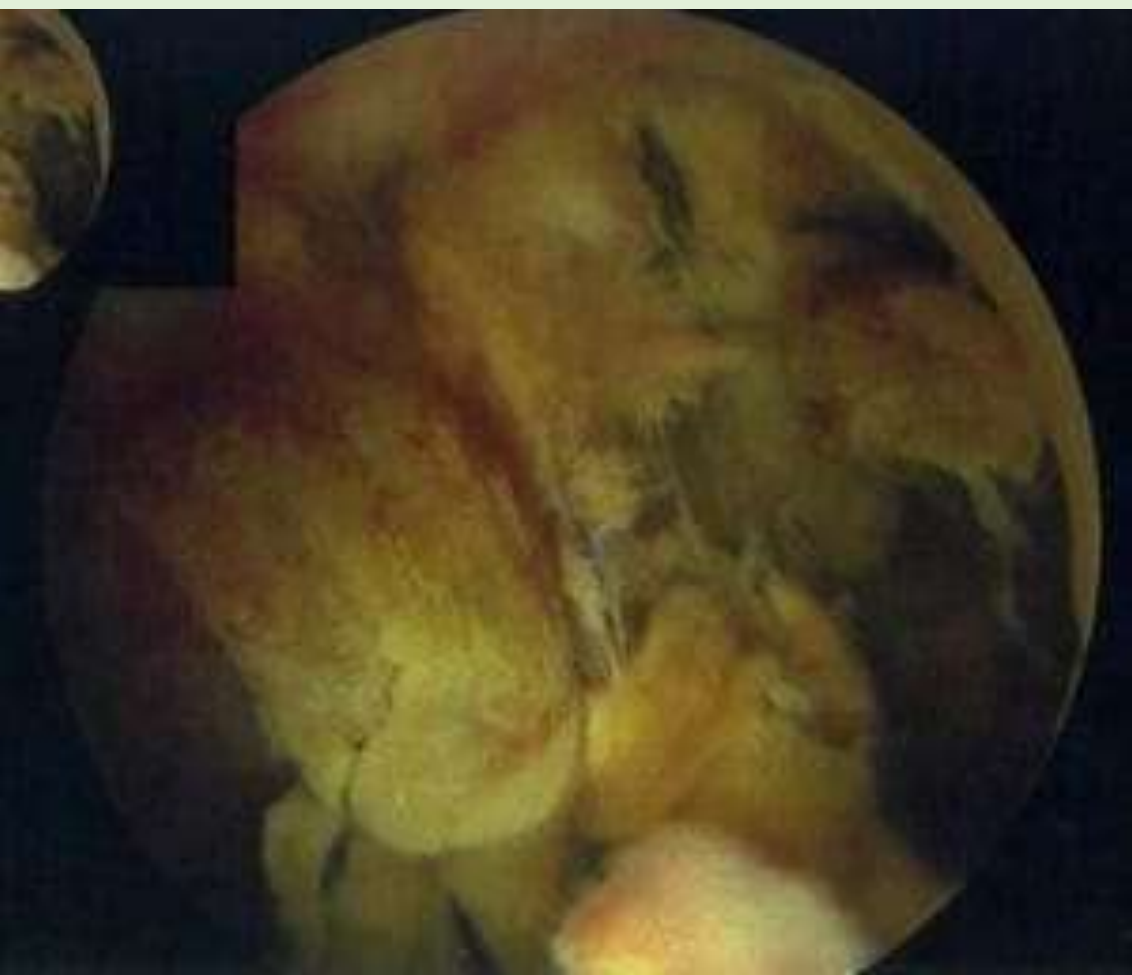
A 33-year-old woman, with a history of two prior miscarriages and postpartum hemorrhage, presented with persistent irregular vaginal bleeding and abdominal discomfort after surgical management of miscarriage. Initial ultrasound suggested retained products of conception (RPOC), but follow-up scans revealed a 5 cm highly vascular anterior uterine wall lesion, raising suspicion for either acquired arteriovenous malformation (AVM) or vascularised fibroid.



MRI suggested an acquired AVM with serpiginous vessels but also considered a vascularised fibroid. CT angiogram supported AVM suspicion, showing uterine artery hypertrophy. Diagnostic angiography, however, suggested corkscrew-like vessels more consistent with fibroid vascularity leading to deferred embolisation.



Given the conflicting imaging findings and risk of severe bleeding, the multidisciplinary team recommended hysteroscopy and laparoscopy for direct evaluation. Hysteroscopy revealed a polypoid mass with fibrinous material; laparoscopy was essentially normal. Biopsies were taken.



Histopathology confirmed retained placental tissue (RPOC) and endometriosis, with no evidence of malignancy or AVM. Follow-up MRI showed spontaneous resolution of the vascular lesion. The patient remained asymptomatic, and no further intervention was required.



Discussion

This case illustrates how overlapping imaging features can create diagnostic uncertainty between uterine AVMs, vascularised fibroids, and retained products. Despite advanced imaging modalities, findings were conflicting: MRI and CT suggested AVM, while angiography leaned toward fibroid vascularity. The decision to proceed with surgical evaluation rather than immediate embolisation proved crucial. Direct visualisation and biopsy ultimately identified retained placental tissue and endometriosis — a diagnosis not clearly predicted by imaging alone. This highlights the essential role of multidisciplinary decision-making and histopathological confirmation in avoiding unnecessary or irreversible interventions, particularly when preserving fertility is a priority.

Conclusion

This case highlights the complexity of diagnosing hypervascular uterine lesions when imaging findings are conflicting. Despite advanced imaging suggesting AVM or fibroid, definitive diagnosis was only achieved through surgical assessment and histopathology, revealing retained placental tissue and endometriosis. A cautious, multidisciplinary approach helped avoid unnecessary interventions.

Learning points

- Hypervascular uterine lesions can mimic multiple conditions, including AVM, fibroid, and retained products.
- Imaging alone may be insufficient; surgical evaluation and histopathology can provide essential diagnostic clarity.
- Multidisciplinary collaboration is vital in navigating diagnostic uncertainty.

References

- 1.Grivell et al., 2005 — Review of uterine AVMs: presentation, imaging, management.
- 2.Zhang et al., 2024 — Case report on uterine AVM with proposed pathogenesis.