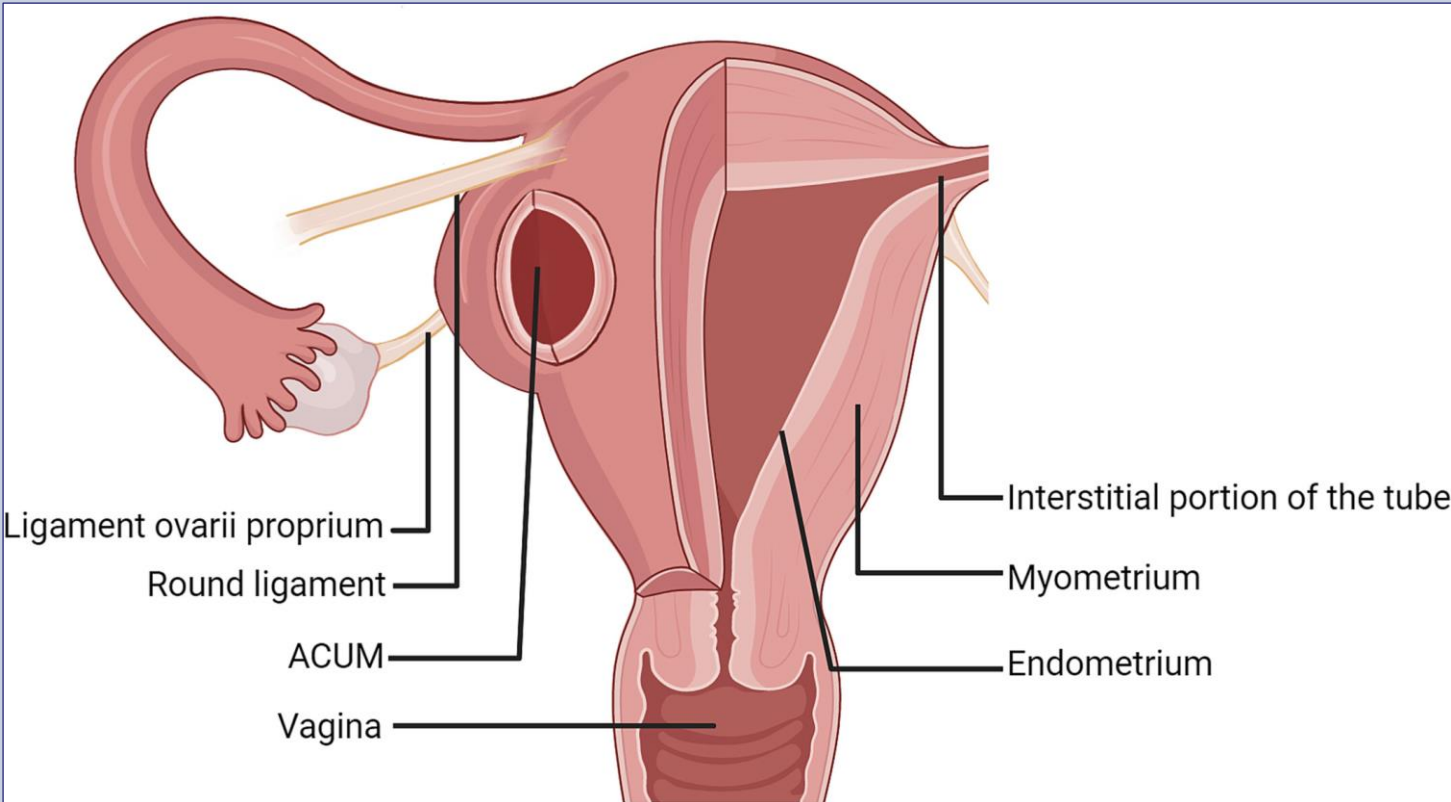


# The Role of Ultrasound in the Early Detection of ACUMs

Rebecca Slough MSc. Clinical Specialist Sonographer  
Dr Sue Freeman Consultant Radiologist  
Cambridge University Hospitals NHS Foundation Trust

## Introduction to ACUM

Accessory cavitated uterine mass (ACUM) is a rare Müllerian anomaly characterised by the presence of an accessory uterine cavity in proximity with the uterus, but non-communicating with its main uterine body. It is most commonly identified among young and nulliparous women presenting with severe dysmenorrhea and infertility.



Timmerman, S. et al. Drawing illustrating the typical anatomical localization of accessory cavitated uterine malformation (ACUM).

## Case Study

The patient, a 35-year-old female, was referred for imaging studies due to complaints of severe dysmenorrhoea, heavy menstrual bleeding, and dyspareunia.



The ultrasound, performed at an acute NHS Trust, demonstrated a well-defined cystic mass directly adjacent to the right uterine wall, inseparable from the myometrium, initially raising concern for an endometrioma.



The cystic mass had a ground-glass appearance, which is consistent with chronic blood products and may therefore be confused for an endometrioma. The outline of the cystic structure appeared relatively thick walled and demonstrates peripheral vascularity.



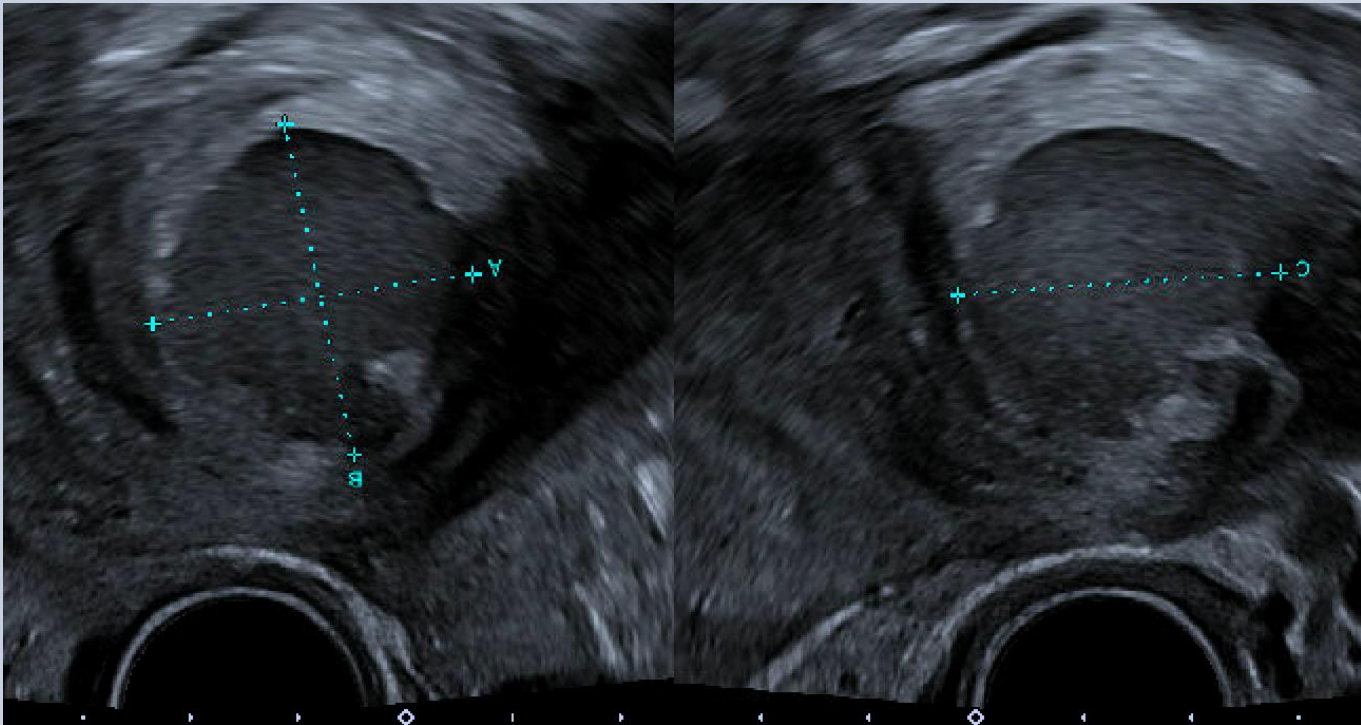
On review of the Ultrasound images (red arrow), the cystic mass was in continuity with the uterine body. This makes the diagnosis of ACUM more likely, as the cystic structure arises from the uterine wall rather than the adnexa. MRI was performed to confirm the suspected Ultrasound diagnosis and assess for other evidence of deep pelvic endometriosis. MRI confirmed the diagnosis of ACUM..



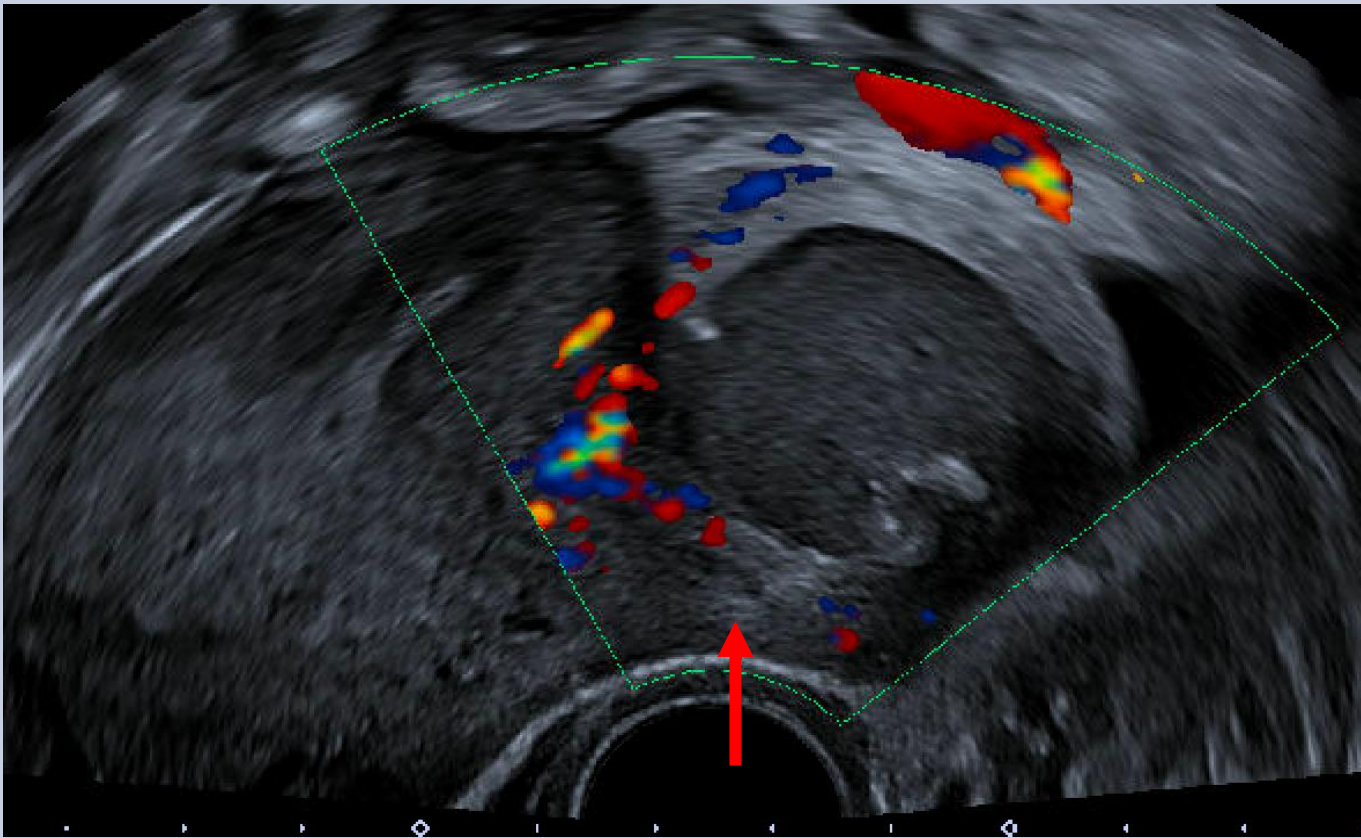
Differential diagnosis in this particular case includes a unicornuate uterus with a functioning but non-communicating rudimentary horn. More commonly, alternative diagnoses may include adenomyosis or a fibroid, particularly, red degeneration within a fibroid.



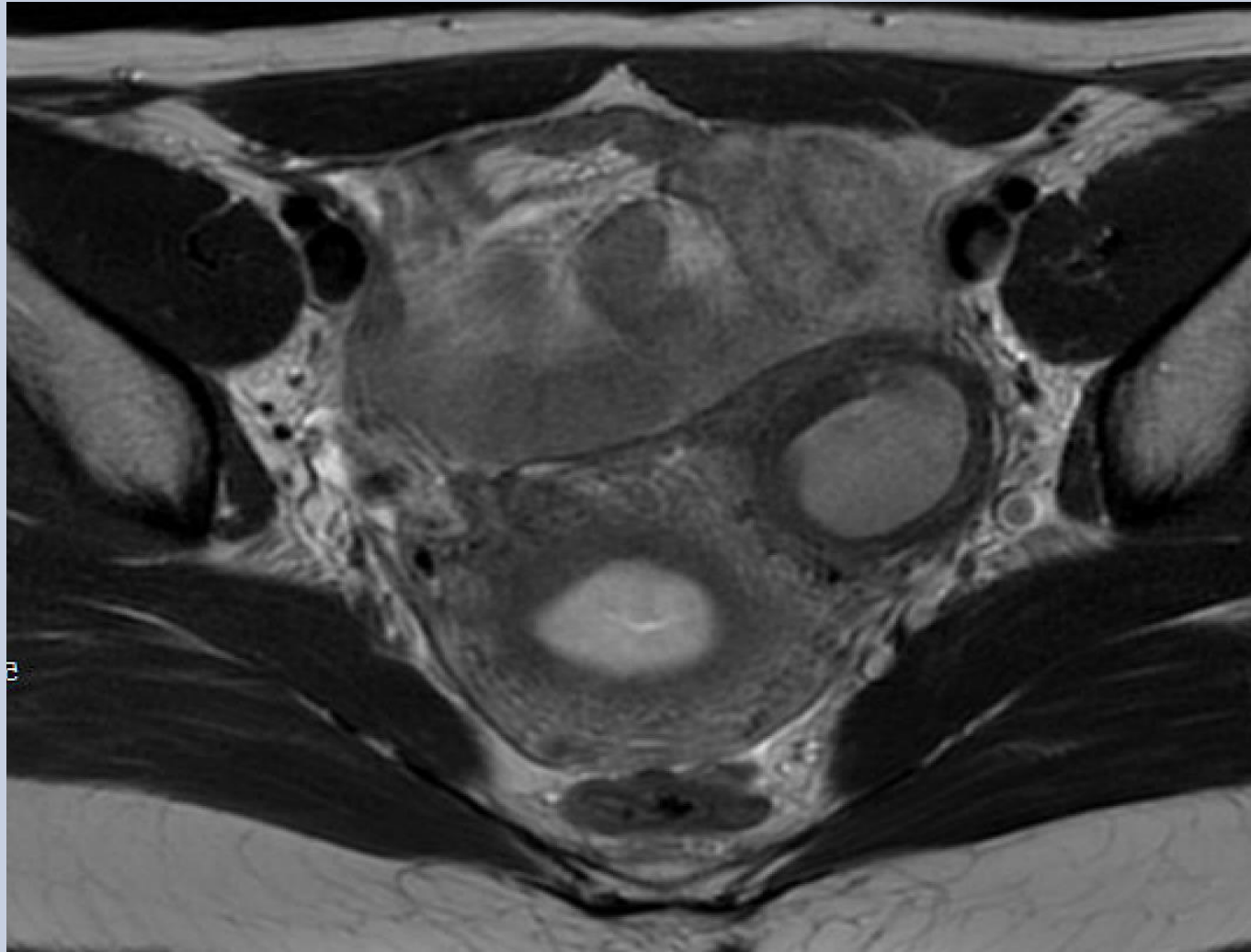
Following correct diagnosis and confirmation of an ACUM, surgical intervention was carried out. Appropriate diagnosis of an ACUM with ultrasound and MRI is crucial in ensuring the correct management pathway is followed.



LS & TS Ultrasound of ACUM with calliper measurement



Peripheral vascularity of cystic mass. Red arrow demonstrates continuity with the uterine body.



Axial T2 MRI of ACUM and surrounding pelvic structures

## Take Home Learning

ACUMs can often be mistaken for a non-communicating rudimentary horn, endometrioma or adenomyotic cyst. Therefore, it is important to take a thorough clinical history from your patient; main symptoms include severe dysmenorrhoea and cyclical pain.

To differentiate from other pathologies, use the following suggested questions:

- Has the mass got a central cystic component with low-level echoes?
- Is there peripheral vascularity?
- Does the border demonstrate similar characteristics to the myometrium?
- Where is it located?
  - Ovary = endometrioma.
  - In continuity with the myometrium, but not communicating with the uterine cavity = ACUM

If the ultrasound findings remain inconclusive, refer for an MRI. Early diagnosis aids and ensures early intervention. Most commonly, excisional surgery is undertaken, and patient symptoms are usually resolved post-operatively.

Imaging Feature	ACUM	Endometrioma	Adenomyosis
Cystic Component	Present	Present	Occasional
Ground-Glass Appearance	Yes	Yes	No
Peripheral Vascularity	Yes	Often (due to surrounding ovarian tissue)	No
Relation to Uterine body	Myometrium*	Ovary	Myometrium

\* "In continuity with the anterolateral uterine wall and located beneath the insertion of the round ligament and the interstitial portion of the fallopian tube" Timmerman, S. et al