Case Report

Accessory and Cavitated Uterine Mass (ACUM): A rare müller-ian anomaly

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Abstract

Background: Accessory and Cavitated Uterine Mass (ACUM) is an uncommon, often underdiagnosed Müllerian duct anomaly typically affecting young women, usually under the age of 30. It is characterized by the presence of a non-communicating accessory cavity within an otherwise normal uterus, typically located in the anterolateral myometrium near the insertion of the round ligament. In this case presentation we are goingto witness this anomay in 13 year old girl and her outcome.

Key words: Bicornuate unicollis; Uterine anatomy; Hormonal treatment; young women; Treatment

Citation: Thendral K, Dhanya Menon, Ashmitaa Srianand, Kayalvizhi K B, Sathya TV. Accessory and Cavitated Uterine Mass (ACUM): A rare müller-ian anomaly. Kauverian Med J. 2026;3(3):105-109.

Academic Editor: Dr. Venkita S. Suresh

ISSN: 2584-1572 (Online)

1. Introduction

Müllerian duct anomalies result from abnormal embryological development of the Müllerian ducts, with a reported prevalence ranging from 0.001% to 10% in the general population and up to 10% among women with infertility or menstrual complaints. Among these, the accessory and Cavitated uterine mass (ACUM) is a rare and newly recognized anomaly. It presents as a functional endometrial-lined cavity within an otherwise normal uterus, without distortion of uterine anatomy. Because of this, it is frequently misdiagnosed as a fibroid, adenomyosis, or adenomyoma. Timely recognition is essential, as ACUM is a treatable yet often overlooked cause of severe dysmenorrhea and chronic pelvic pain in young women.

2. Case Presentation

A 13-year-old girl presented with: Pain during menstruation for 2 years, Congestive dysmenorrhea persisting up to 2 weeks' post-menses, Low backache, Absenteeism from school. There was no history of abnormal uterine bleeding, fever, or discharge per vaginam. She had regular menstrual cycles (30 days, 6 days' flow, using 1 pad/day), with no prior surgeries or drug allergies.

3. Diagnostic Work-up

- **Ultrasound:** Revealed a bicornuate unicollis uterus with smaller sized right horn with mild endometrial collection.
- **MRI (10.9.2025):** Demonstrated a 3.7 × 2.7 × 3.1 cm lesion along the right lateral uterine wall, consistent with ACUM. The endometrial thickness was 4.5 mm. Rest of the uterus, cervix and vagina appeared normal. Bilateral ovaries appeared normal.

4. Management: Surgical Intervention

The patient underwent diagnostic hysteroscopy followed by laparoscopic excision of ACUM on 21.10.2025.

- **Hysteroscopy:** Normal uterine cavity and cervical canal; bilateral ostia visualized.
- **Laparoscopy:** Uterus appeared grossly normal with a small bulge on the right lateral wall below the cornual end. Both fallopian tubes and ovaries were normal.

After vasopressin injection, the lesion was excised using a harmonic scalpel. A small amount of chocolate-brown fluid was drained, confirming a functional cavity. The myometrial defect was closed with barbed sutures, hemostasis achieved, and Interceed placed. The specimen was removed via morcellation.

Post-operative Course: Recovery was uneventful. The patient was treated with antibiotics and analgesics, tolerated diet well, passed flatus and urine normally, and remained stable for discharge.

Discussion: ACUM is a non-communicating, uterus-like mass located within a normal uterus, typically under the round ligament. It histologically resembles endometrial tissue and presents in women under 30 years with severe dysmenorrhea and pelvic pain due to cyclical bleeding within the accessory cavity.

5. Diagnostic Criteria for ACUM

- Isolated accessory cavitated mass, usually beneath the round ligament
- Normal uterus, fallopian tubes, and ovaries
- Surgical excision with histopathological confirmation
- Accessory cavity lined with endometrial glands and stroma
- Chocolate-brown fluid content
- Absence of adenomyosis in the main uterus, although there could be tiny foci of adenomyosis in the myometrium of the accessory cavity due to increased intracystic pressure.

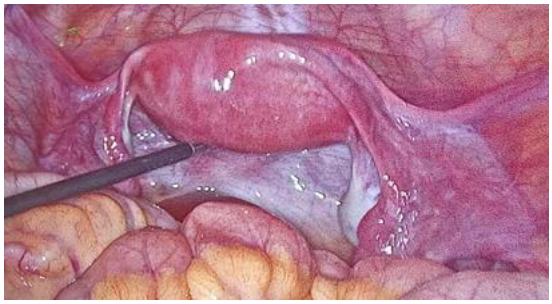

Fig (1): Normal external appearance of the uterus with normal tubes and

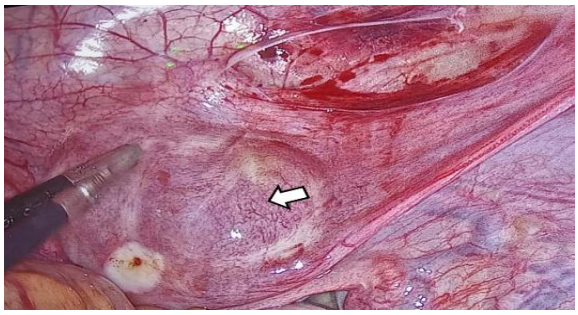

Fig (2): ACUM on the right lateral wall near cornual end

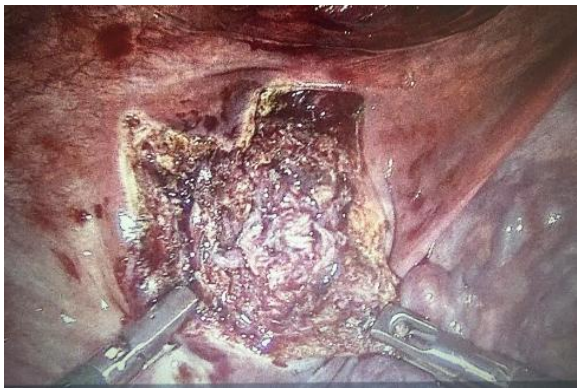

Fig (3): ACUM exposed after incising the myometrium

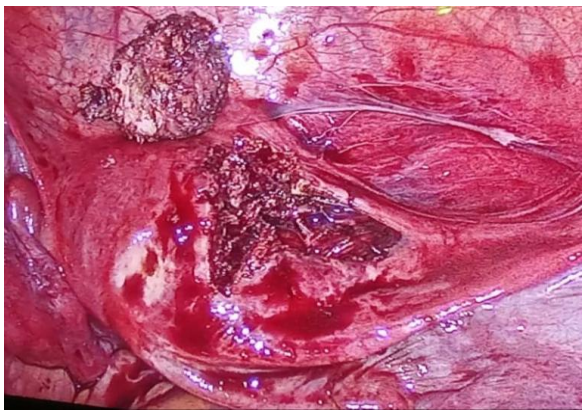

Fig (4): Excised ACUM and the dead space within the myometrium

On ultrasound, it appears as a well-defined, spherical cavitated lesion with ground-glass echogenicity, a smooth inner lining, and a surrounding myometrial mantle—features suggestive of hemorrhagic content and functional endometrium. 3D ultrasound enhances diagnostic accuracy by providing a coronal view of the uterus, confirming normal anatomy and ruling out Müllerian anomalies. MRI is the imaging modality of choice, especially in young unmarried patients, as it clearly delineates uterine anatomy and identifies hemorrhagic cavities. ACUM typically presents as a round lesion with a central hemorrhagic cavity showing high T1 signal intensity that persists after fat saturation. The cavity is lined by a thin, moderately enhancing layer that appears hyperintense on T2-weighted images, surrounded by a fibrous crown with low signal intensity and a thickened, hypointense myometrial mantle.

The uterus and endometrial cavity remain normal in size and shape, with no communication between the ACUM and the main cavity. Misdiagnosis as adenomyoma or fibroid is common, underscoring the need for greater awareness among clinicians and radiologists.

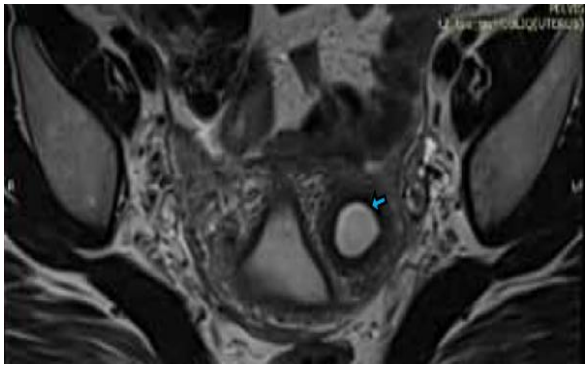

Fig (5): MRI showing normal uterine cavity and the ACUM in T2-weighted image

Hormonal treatment options include continuous oral contraceptive pills (OCPs), the levonorgestrel-releasing intrauterine system (e.g., Mirena), and gonadotropin-releasing hormone (GnRH) agonists. These suppress ovarian steroidogenesis and prevent endometrial shedding within the accessory cavity, reducing blood accumulation and associated pain. However, medical therapy is not curative and may result in symptom recurrence after discontinuation.Laparoscopic excision is the definitive treatment, offering complete symptom relief. Vasopressin infiltration at the ACUM–myometrium junction aids in hemostasis and dissection. Preoperative hysteroscopy confirms a normal uterine cavity and excludes communicating anomalies, while intraoperative ultrasound helps delineate lesion boundaries and avoid breach into the endometrial cavity. Dissection requires precision due to the absence of a pseudocapsule and proximity to vital structures. Cold knife or scissors are preferred to minimize thermal injury, though energy devices may be used based on surgeon preference. Specimen retrieval methods include colpotomy, morcellation, or endo bags, and spillage is generally not harmful due to ACUM's benign nature. Sclerotherapy offers a minimally invasive alternative for patients who decline surgery. It involves injecting sclerosants such as 99% ethanol, ethanolamine oleate, or hypertonic solutions into the accessory cavity to induce fibrosis and obliteration. While initial pain relief is possible, recurrence is common, and the procedure is not curative. Careful patient counselling is essential to set expectations and guide long-term management.

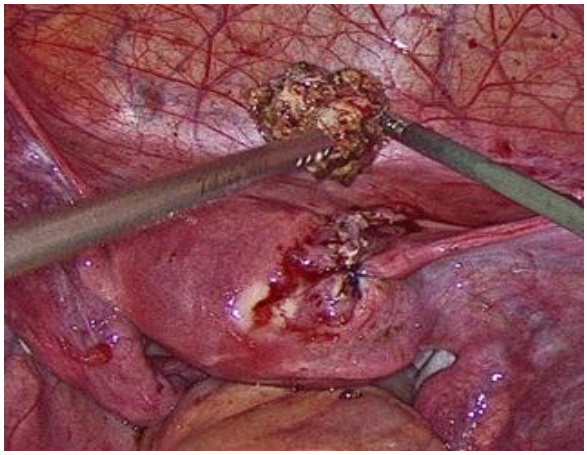

Fig (6): At the end of the surgery after occlusion of the dead

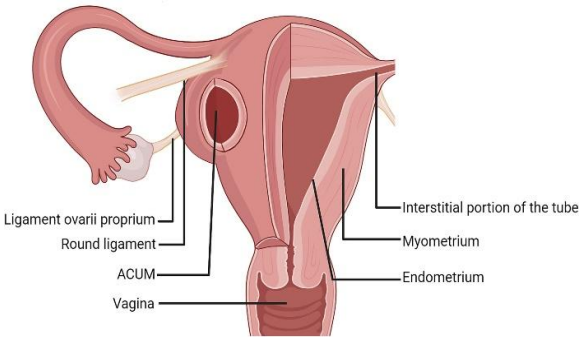

Fig (7): How an ACUM looks like

6. Conclusion

Accessory and Cavitated uterine mass (ACUM) is a rare congenital Müllerian anomaly associated with gubernaculum dysfunction. It should be considered in young women with refractory dysmenorrhea and pelvic pain despite normal uterine imaging. MRI plays a pivotal role in diagnosis, and laparoscopic excision offers curative treatment. Early recognition of its distinct imaging and intraoperative features ensures timely management and excellent patient outcomes.