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Case Report

Accessory cavitated uterine mass: an underdiagnosed condition and a diagnostic challenge

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ABSTRACT

Accessory cavitated uterine mass (ACUM) is a rare Müllerian duct anomaly characterized by a non-communicating, cavitated lesion within the myometrium, lined by functional endometrium. ACUM often mimics other gynaecological disorders such as endometriosis, cystic adenomyoma, leiomyoma or cornual ectopic pregnancy, leading to diagnostic delays and significant morbidity. We present the case of a 28-year-old multiparous woman with a three-year history of severe, progressive dysmenorrhea and chronic pelvic pain refractory to standard medical management. Pelvic ultrasonography and MRI suggested possible endometriosis or chronic ectopic pregnancy. Definitive diagnosis achieved intraoperatively, a rudimentary horn–like, non-communicating cavity was identified, filled with fluid and surrounded by normal myometrium, consistent with ACUM. The patient underwent surgical resection of the accessory uterine cavity, resulting in complete resolution of her symptoms. This case underscores the importance of considering ACUM in the differential diagnosis of young nulliparous as well as multiparous women presenting with severe dysmenorrhea and chronic pelvic pain, especially when symptoms are refractory to initial treatment. Increased clinical awareness of ACUM's characteristic features is essential to reduce diagnostic delay and improve patient outcomes.

Keywords: Müllerian anomaly, Juvenile cystic adenomyoma, Accessory cavitated uterine mass, Severe dysmenorrhea

INTRODUCTION

Müllerian duct anomalies comprise a heterogeneous spectrum of congenital malformations arising from abnormal differentiation, fusion, or resorption of the Müllerian ducts. Their prevalence is estimated between 0.001–10% in the general population and up to 8–10% among women with adverse reproductive outcomes.[1] While septate uterus is the most common anomaly, accessory cavitated uterine mass (ACUM) represents a recently recognized and particularly rare variant.

ACUM is defined as a non-communicating accessory uterine cavity lined by functional endometrium and encased within hypertrophic myometrium, in the context of an otherwise normally developed uterus.[2] In contrast to other Müllerian anomalies, ACUM does not distort the uterine cavity and is typically located near the insertion of the round ligament.

The ACUM predominantly affects young women, often under the age of 30 and rarely reported in multipara women. The clinical spectrum usually includes severe dysmenorrhea, chronic pelvic pain, and occasionally dyspareunia, with symptoms manifesting soon after menarche and often refractory to conventional medical therapy.[3] Due to overlapping clinical and radiological features, ACUM is frequently misdiagnosed as leiomyoma, adenomyoma, cystic adenomyosis, or a rudimentary horn.[4] Imaging modalities such as ultrasonography and MRI play a pivotal role in detection; however, laparoscopy with histopathological confirmation remains the diagnostic gold standard.[5] The treatment of choice is surgical excision, which has consistently been

associated with complete symptom relief and a low risk of recurrence.[6]

Despite increasing recognition, ACUM remains unclassified in current uterine anomaly systems such as ESHRE/ESGE and ASRM, which contributes to its underdiagnosis and frequent misclassification. Greater clinical awareness is therefore essential, as timely recognition and management of ACUM not only alleviates debilitating symptoms but may also improve reproductive outcomes.

CASE REPORT

A 28-year-old woman P1L1A1 presented with a four years history of severe progressive dysmenorrhoea. Menarche was attained at the age of 14 years. Since menarche she experienced dysmenorrhea but did not get evaluated. Her menstrual cycles were regular with normal flow. She is married for 6 years had one uneventful term vaginal delivery four years ago and one spontaneous abortion 3 years ago. Following delivery the intensity of the pain was becoming progressively very intense without efficiency of the medical treatment.

General physical examination was normal and vitals were stable. On per abdominal examination -soft, nontender. On per speculum examination cervix and vagina healthy, no discharge seen. On per vaginal examination uterus normal size, anteverted, right adnexal tenderness present. Left fornix free non tender.

The hemogram, serum electrolytes, urea, creatinine, liver function tests, and urinalysis were all within normal limits.

Ultrasound performed revealed a 2.8×2.7×2.4 cm well-circumscribed hypoechoic lesion with minimal peripheral vascularity located at the right antero-lateral wall of the myometrium, beneath the uterine horn, showing ground glass echoes. Findings were suspicious of Endometrioma; right cornual/chronic ectopic, beta HCG values <2 Miu/ml; right rudimentary horn; degenerative fibroid

Endometrial cavity showed hypoechoic lesion suggestive of endometrial polyp.

MRI imaging reveal well defined T1W hyperintense lesion measuring 2.2x1.9cm towards the right uterine cornu and it appears hyperintense on T1Fs, intermediate to hyperintense on T2W with peripheral hypointense wall and shows significant signal drop with shading on STIR sequence with peripheral and mild posterior marginal blooming on GRE sequence.

Due to diagnostic dilemma patient was posted for surgical exploration after pre anaesthetic workup. Intraoperatively uterus exteriorised and was normal in size and bilateral ovaries were normal in size without any adhesions. A3x2 cm swelling seen near right cornua. Longitudinal incision given over the swelling. A firm cavitatory lesion identified non communicating to uterine cavity, hence suggestive of accessory cavitated uterine malformation, with the possibility of sub-serosal fibroid being less likely. Dissection done around the fibrotic area to completely excise the ACUM en mass and sent for HPE. Chocolate coloured material inside cavity confirming the lesion type. The base defect then closed using number 2-0 vicryl, uterine serosa closed using baseball suture. Post operative period was uneventful.

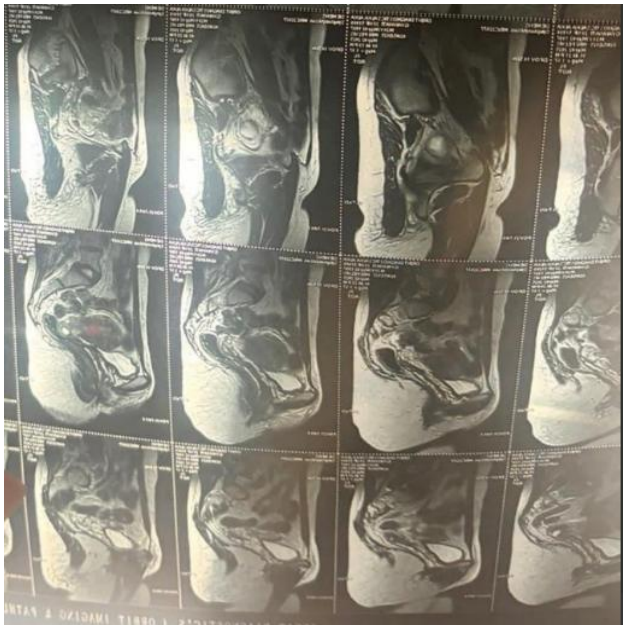

Figure 1: T2-weighted MRI images showing a well-defined hyperintense lesion adjacent to the uterine wall, consistent with a cystic component.

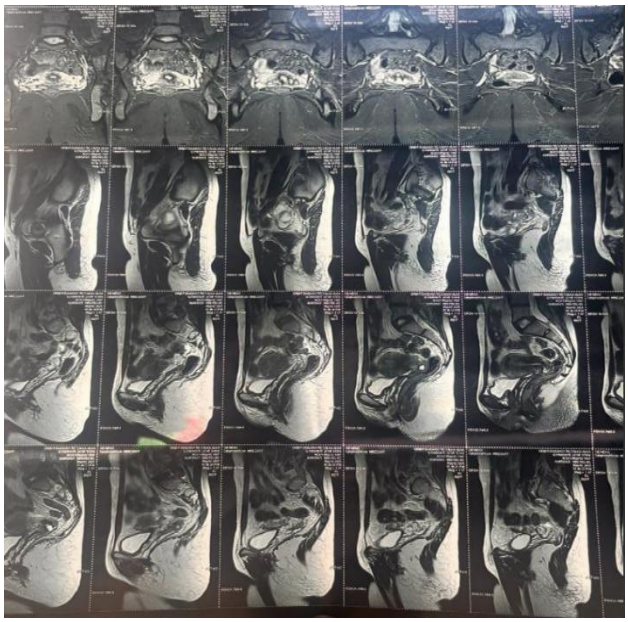

Figure 2: T1-weighted MRI images demonstrating a corresponding hypointense lesion relative to the myometrium.

Histopathology of specimen confirmed a central cavity lined with functional endometrium showing endometrial glands and stroma and surrounded by smooth muscle confirming the diagnosis of ACUM.

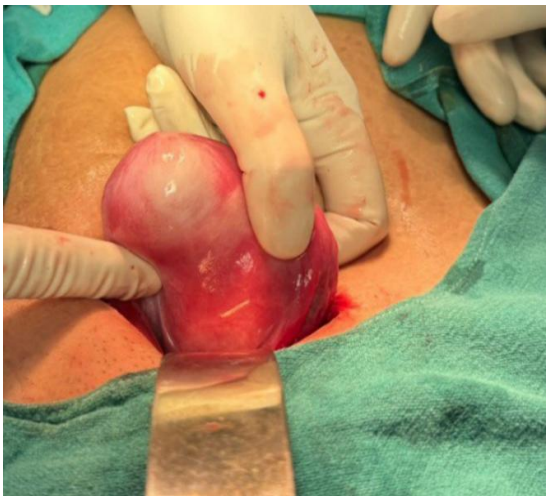

Figure 3: 3×2 cm swelling near right cornua.

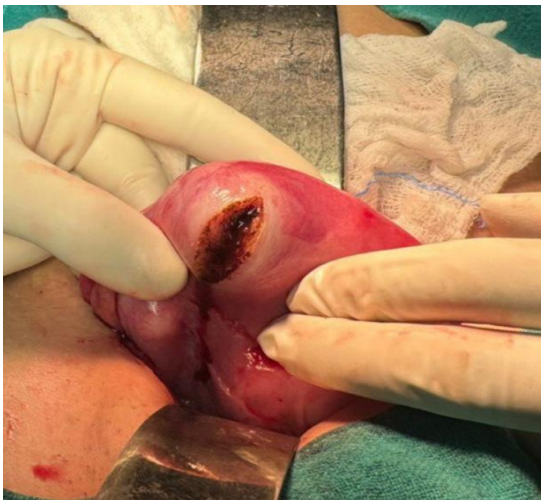

Figure 4: Chocolate colored fluid seen and drained.

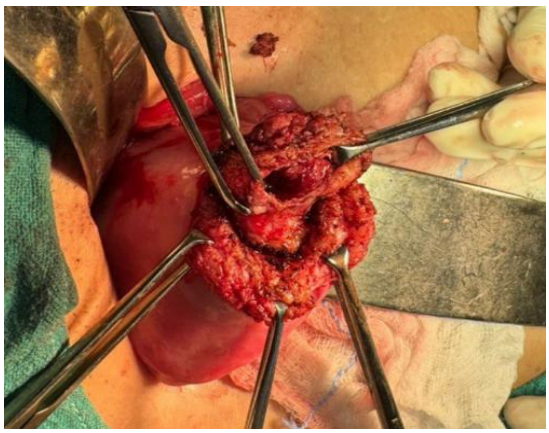

Figure 5: Cavity opened without breach in uterine cavity, subserosal plane dissected.

DISCUSSION

ACUM represents a rare congenital Müllerian anomaly, characterized by the presence of an isolated, non-communicating cavitated lesion lined by functional endometrium within an otherwise normal uterus.[2] The entity now recognized as ACUM was first described by Cozzutto in 1981 as a uterine-like mass. Since then, advancements in imaging and histopathological techniques have led to a gradual rise in reported cases worldwide.[7] The scoping review cites 115 cases across the published literature that meet minimum diagnostic criteria.[8] Dekkiche et al. independently compiled 79 prior cases in their review plus their 9, for ~88 total.[9]

Three principal mechanisms have been proposed for the development of ACUM: the congenital anomaly theory, heterotopia theory, and metaplasia theory. The most widely accepted explanation is that ACUM represents a congenital anomaly caused by duplication of Müllerian ductal tissue near the uterine cornua, typically at the attachment site of the round ligament, possibly due to gubernaculum dysfunction.[2,3] This embryologic basis explains the consistent anatomical location of the lesion and its association with severe cyclical pain in young women with otherwise normal reproductive anatomy.

ACUM predominantly affects women younger than 30 years, though cases in multiparous women have been infrequently reported.[4-6] The hallmark presentation is severe, progressive dysmenorrhea and chronic pelvic pain refractory to medical therapy. The onset of symptoms typically coincides with menarche, reflecting the functional activity of ectopic endometrial tissue within the accessory cavity. Our patient, a 28-year-old multipara, fits the clinical profile but is notable for presentation after childbirth, underscoring that ACUM can also occur or become symptomatic beyond early reproductive years.

Preoperative diagnosis of ACUM remains challenging due to overlapping imaging features with other gynaecological pathologies such as endometriosis, cystic adenomyoma, leiomyoma with cystic degeneration, and rudimentary horn.[3-5] Ultrasonography, as the initial imaging technique, typically shows a well-circumscribed hypoechoic or cystic lesion adjacent to the uterine cornua and distinct from the ovaries. MRI, being the preferred modality, allows accurate localisation and tissue characterisation of the lesion and offers a global view of the pelvic anatomy without requiring contrast.[10] These findings were consistent in our case; however, diagnostic uncertainty necessitated exploratory laparotomy.

The diagnostic criteria proposed by Takeuchi et al. and later reinforced by Rajarajeswari et al. include: a cavitated mass located beneath the round ligament, a normal uterus, fallopian tubes, and ovaries, non-communication with the uterine cavity, endometrial lining within the cavity, and absence of adenomyosis in the main uterus.[2-4]

All these criteria were fulfilled in the present case.

Histopathological examination is confirmatory and reveals a cavity lined by endometrial epithelium and stroma surrounded by hypertrophied smooth muscle, often containing "chocolate-colored" fluid due to repeated cyclic bleeding.[3] Our case demonstrated these classic findings, confirming the diagnosis of ACUM and excluding other differential diagnoses such as cystic adenomyoma or localized adenomyosis.

Surgical excision remains the treatment of choice, as medical therapy is usually ineffective due to the lack of cavity communication and persistent haemorrhagic distension. Laparoscopic resection provides both diagnostic confirmation and definitive management, with excellent long-term outcomes and minimal recurrence.[6] Most reports, including recent ones by Anitha et al. (2023) and Manasa, et al. (2024), reaffirm that laparoscopic excision leads to complete symptom relief with no recurrence on follow-up.[3-6] In our case, complete surgical excision resulted in full resolution of symptoms, consistent with previously reported outcomes.

Recent literature emphasizes that early recognition and surgical removal of ACUM not only relieve pain but may also prevent unnecessary extensive uterine surgeries or misdiagnosis as endometriosis or fibroid degeneration. Increased awareness among gynaecologists and radiologists is crucial for preoperative identification, particularly in young women presenting with cyclical pain and normal imaging of the uterus and adnexa.

CONCLUSION

ACUM is a rare, under-recognized Müllerian anomaly that often masquerades as other uterine pathologies. Comprehensive evaluation combining clinical, imaging, and histopathological findings is vital for accurate diagnosis. MRI plays a pivotal role in differentiating ACUM from other pelvic lesions. Timely surgical excision offers definitive management and excellent symptom relief, underscoring the importance of heightened clinical awareness, particularly in young women with refractory dysmenorrhea and chronic pelvic pain.

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