

Accessory and Cavitated Uterine Mass - Demystifying the Entity with a Case Series of Two Cases

Case Series

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Abstract

We present a case-series of 2 cases, of ACUM, which is a non-communicating functional cavity within a normal uterus, which resembles endometrial cavity. It is considered to be a developmental anomaly, which characteristically presents at a younger age, with severe dysmenorrhea. USG and MRI are useful in diagnosis, which can be confirmed on laparohysteroscopy.

Keywords: ACUM (Accessory and cavitated uterine mass); Endometrial Cavity; MRI

Case 1

Clinical History: A 25 years old nulliparous female with chief complaint of severe dysmenorrhea and chronic pelvic pain, which aggravated during the days of menses. However no irregularity in her menstrual cycles was seen. USG pelvis was advised.

Imaging Findings: Her ultrasound pelvis revealed an anechoic lesion in the myometrium just adjacent to the endometrial cavity with e/o echoes and debris like internal material, without any internal vascularity. This lesion simulated the characteristics of an endometrial cavity.

MR-pelvis showed approx 25 x 30 mm sized T2-STIR centrally hyper intense and peripheral hypo intense and T1 hyper intense lesion, which simulated the signal intensity characteristics of the endometrial lining. T1-hyperintensity was representative of hemorrhagic contents of this lesion; the lesion was intra-mural, involving the anterior wall of myometrium on left lateral aspect;

CASE 2

Clinical History: A 21-year-old, nulliparous female patient presented with a history of chronic pelvic pain worsening every year, for more than 3 years. Her menstrual cycle was regular with normal flow. There was no history suggestive of pelvic inflammatory disease. She was treated with non-steroidal anti-inflammatory drugs (NSAIDS) earlier and with oral contraceptive pills (OCP) for the last few months. There was history of recurrent renal calculi. Per abdomen examination was normal (Figure 1).

Imaging Findings

USG pelvis showed approx 11 x 8 mm size well-defined thick walled anechoic lesion seen adjacent to the ET, which is seen in relation to the posterior myometrium; the lesion shows e/o layering hyper echoic debris in it;

MRI pelvis showed a T1-T2-hyperintense lesion in relation to

the posterior wall of myometrium in the lower corporal segment , which shows no suppression on T1-FS images(Rules out fat signal intensity); Intralesional central area blooming is seen on GRE images; (Represents blood products within the lesion). The lesion shows heterogeneous diffusion restriction with corresponding hypo intensity seen on ADC images;

Based on the imaging findings in both the above-mentioned cases, diagnosis of ACUM (Accessory and cavitated uterine mass) was made; However second rare differential kept was that of a necrotic fibroid.

Subsequent laparoscopic assessment confirmed the imaging finding of ACUM (Figures 2,3).

Discussion

ACUM is a non-communicating ULM (Uterus like mass) arising in the uterus itself [1]. The entity needs to be classified separately as the uterine cavity is otherwise normal unlike other Mullerian anomalies. It is considered to be a congenital anomaly [1] It characteristically presents at a younger age, usually less than 30 years, with severe dysmenorrhea and chronic pelvic pain due to distention of the cavity caused by repeated bleeding [2].

Out of the imaging modalities, USG is the initial investigation, MRI is confirmatory and intra-operative laparoscopy is the gold-standard for diagnosis which has added benefit of being therapeutic;

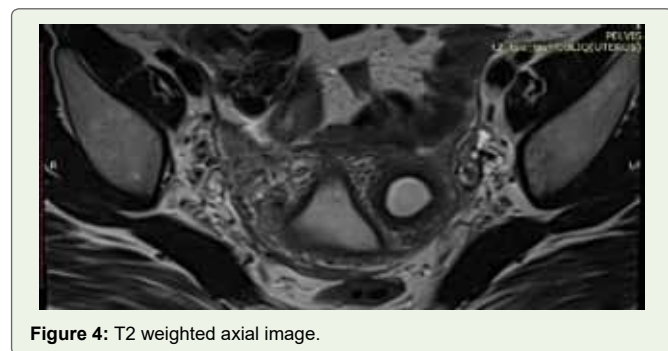
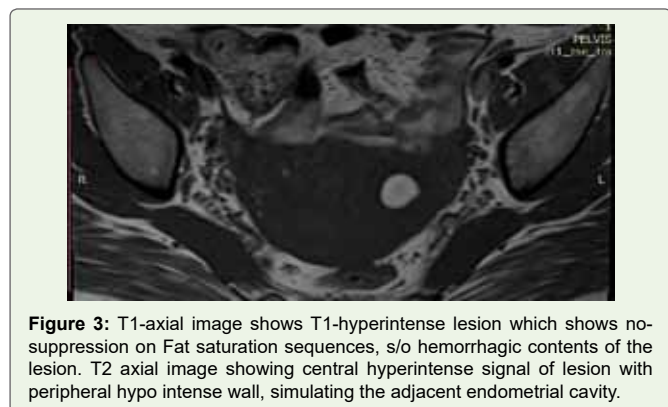
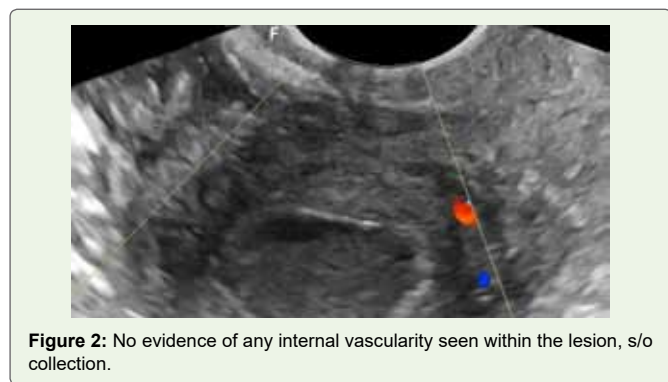
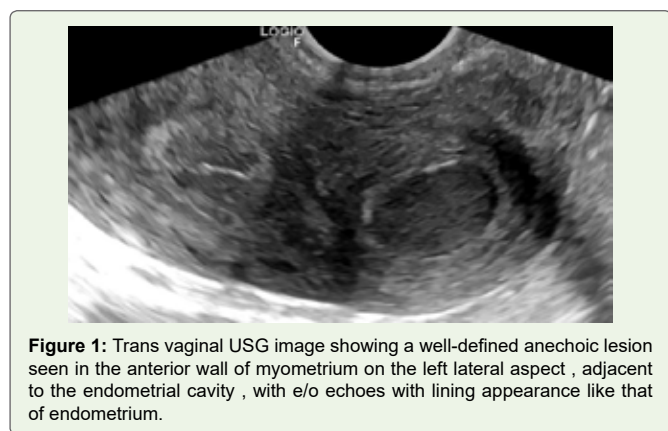
USG is the initial imaging modality that can identify them as solid iso echoic to predominantly cystic masses resembling endometrioma arising within the uterus, visualized separately from the ovaries. On HSG, the mass may not be visualized at all. However, the most important role of HSG lies primarily in ruling out any Mullerian anomaly. MRI is the imaging modality of choice as it non-invasive and, hence, preferred over HSG in young unmarried females. It clearly shows the pelvic anatomy; cavitated mass with hemorrhagic contents; and the uterus, myometrium, and endo-myometrial interface. Thin sections (3 mm) should be used as it will also help in ruling out Mullerian anomalies (Figure 4)

The cavitated mass in ACUM is lined by endometrial glands and stroma that are surrounded by irregularly arranged smooth muscle cells. These can arise anywhere within and beyond the uterus at any age , as was seen in our second case [2].

Laparoscopy remains the only option available for confirmation and treatment. Regarding therapeutic management, most recent publications have included laparoscopic excision of the mass (Figure 5,6).

Awareness and adequate knowledge of the entity can help the radiologist make accurate pre-operative diagnosis of ACUM, which is very beneficial for the gynecologist to have maximum pre-operative information;

Take-home message would be to keep in mind of this entity when a young female patient with severe dysmenorrhea shows an accessory Endometrium-like lesion in the myometrium; It is a treatable cause and is not as rare as thought previously; An accurate pre-operative diagnosis can be made;



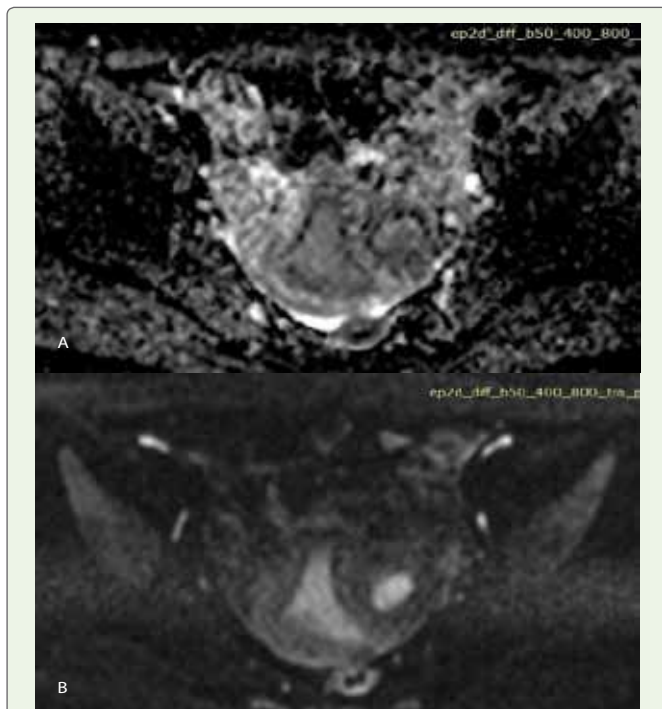


Figure 5a,b: DWI-ADC images showing diffusion restriction with corresponding hypo intensity in the lesion.

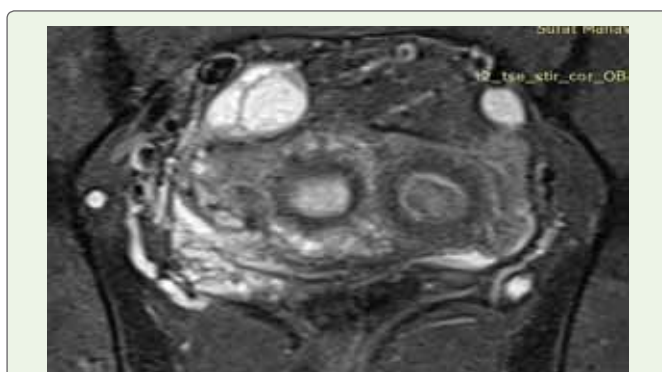


Figure 6: MRI STIR coronal image showing hyperintense lesion with internal hypointensity seen on the left lateral aspect of the anterior myometrium.

Written informed patient consent for publication has been obtained

Final Diagnosis: Accessory and cavitated uterine malformation (ACUM)

Differentials: [3,4]

- Accessory and cavitated uterine malformation
- Cystic area of adenomyosis
- Necrotic intramural fibroid
- Focal adenomyoma
- Obstructed cavitated rudimentary horn with unicornuate uterus.

The closest differential for ACUM is obstructed cavitated rudimentary horn with unicornuate uterus. However in unicornuate uterus, contra lateral tilt of the uterus, banana-shaped small uterine cavity, favors obstructed horn [5].

Necrotic intramural fibroid will not mimic lining characteristics of endometrial cavity and will not show T1 hyperintense signal (Figure 7,8,9,10).

Likewise Cystic adenomyoma will not show T2-hyperintense endometrial lining and hemorrhagic contents (Figure 11).

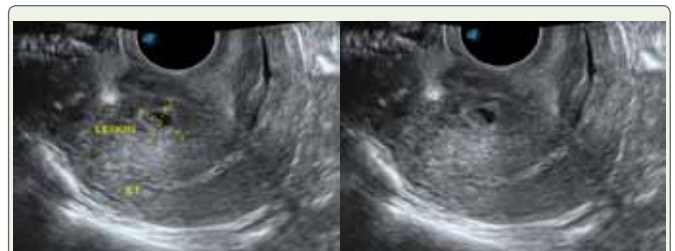


Figure 7: Trans-vaginal USG image showing approx 11 x 8 mm size well-defined thick walled anechoic lesion seen adjacent to the ET, which is seen in relation to the posterior myometrium ; The lesion shows e/o layering hyper echoic debris in it.

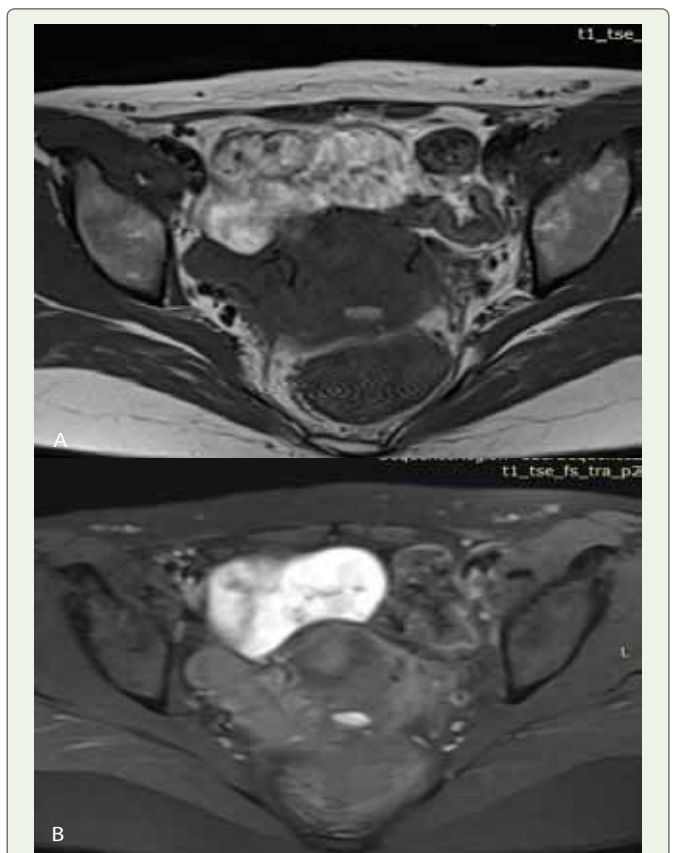


Figure 8a,b: T1 and T1-FS axial images shows T1 hyperintense lesion in relation to the posterior wall of myometrium in the lower corporal segment , which shows no suppression on T1-FS images.



Figure 9: GRE axial image shows central area blooming is seen on GRE images; (Represents blood products within the lesion).



Figure 10: T2 and STIR coronal images respectively shows T2-hyperintense signal of the lesion, with lesion resembling lining characteristics and appearance of endometrial cavity.

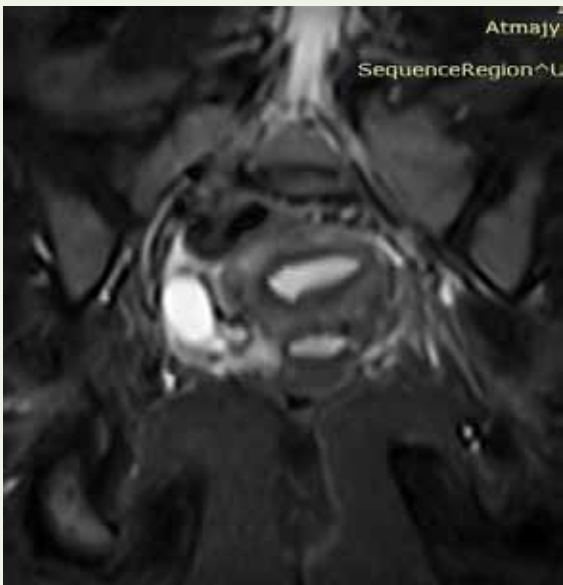


Figure 11: T2 and STIR coronal images respectively shows T2-hyperintense signal of the lesion, with lesion resembling lining characteristics and appearance of endometrial cavity.

Conclusion

Accessory and cavitated uterine malformation (ACUM) is not as rare as thought previously and an accurate pre-operative diagnosis can be made, in a young female with clinical complaints of severe dysmenorrhea, whose imaging findings shows an accessory cavity which shows endometrium like characteristics. USG is the initial investigation, with findings confirmed on MRI.

The MRI findings of an ACUM usually show an accessory cavity with hemorrhagic contents in an otherwise normal-shaped uterus, without any evidence of adenomyosis, and bilateral normal tubes and ovaries should suggest the diagnosis of ACUM pre-operatively.

References

1. Acien P, Sánchez del Campo F, Mayol MJ, Acien M (2011) The female gubernaculum: Role in the embryology and development of the genital tract and in the possible genesis of malformations. *Eur J Obstet Gynecol Reprod Biol* 159: 426-432.
2. Jain N, Verma R (2014) Imaging diagnosis of accessory and cavitated uterine mass, a rare mullerian anomaly. *Indian J Radiol Imaging* 24: 178-181.
3. Jain N, Goel S (2012) Cystic Adenomyoma simulates uterine malformation: A diagnostic dilemma: Case report of two unusual cases. *J Hum Reprod Sci* 5: 285-288.
4. Acien P, Acien M, Fernández F, José Mayol M, Aranda I (2010) The cavitated accessory uterine mass: A Müllerian anomaly in women with an otherwise normal uterus. *Obstet Gynecol* 116: 1101–1119.
5. Khati NJ, Frazier AA, Brindle KA (2012) The unicornuate uterus and its variants: Clinical Presentation, imaging findings, and associated complications. *J Ultrasound Med* 31: 319-331.