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(CASE REPORT)

Angiomyofibroblastoma of the Left Broad Ligament: A Rare Benign Pelvic Tumor

AMAL AKAMMAR [1, *], YOUNES ABDOURABBIH [1], MAJDA IDRISSI [3], LAYLA TAHIRI [4], HAJAR OUAZZANI CHAHDI [1], ISMAIL CHAOUCH [2], NIZAR EL BOUARDI [2], MERIEM HALOUA [1], BADREEDDINE ALAMI [2], MOULAY YOUSSEF ALAOUI LAMRANI [2], CHAHRAZED BOUCHIKHI [3], MUSTAPHA MAAROUFI [2] and MERYEM BOUBBOU [1]

[1] *Department Mother and child radiology, Hassan II University hospital fez, sidi Mohamed bend Abdallah university Fez Morocco.*
[2] *Department of central radiology. Hassan II University hospital fez, sidi Mohamed bend Abdallah university Fez Morocco.*
[3] *Department of Gynecology. Hassan II University hospital fez, sidi Mohamed bend Abdallah university Fez Morocco.*
[4] *Department of Anatomopathological laboratory. Hassan II University hospital fez, sidi Mohamed bend Abdallah university Fez Morocco.*

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Abstract

Angiomyofibroblastoma (AMFB) is a benign mesenchymal tumor most commonly found in the female genital tract. Preoperative diagnosis of AMFB remains difficult, so far only few reports described imaging features of this rare neoplasm, especially on MRI. We report a case of a 54-year-old female patient with no significant medical history, who was admitted for metrorrhagia lasting two months. Ultrasound and MRI examinations were performed, but the diagnosis at this stage was challenging. Histopathological and immunohistochemical analyses ultimately confirmed the diagnosis of angiomyofibroblastoma of the left broad ligament.

The purpose of this report is to describe this rarely located benign mesenchymal tumor and highlight the diagnostic difficulties associated with its imaging features.

Keywords: Angiomyofibroblastoma; Benign; Tumor; Genital; Board ligament

1. Introduction

Angiomyofibroblastoma (AMFB) is a rare benign mesenchymal tumor that typically arises in the soft tissues of the vulvovaginal region in women and, less commonly, in the inguinoscrotal area in men [1]. Its occurrence in the **broad ligament** is exceptionally rare and may lead to diagnostic confusion with other mesenchymal or adnexal tumors, particularly on imaging studies [1,2].

Radiologically, AMFB often appears as a well-circumscribed soft tissue mass with nonspecific features, making distinction from aggressive angiomyxoma or other benign mesenchymal lesions challenging. Histopathological and immunohistochemical analyses remain essential for definitive diagnosis [1, 3].

2. Case report

A 54-year-old postmenopausal woman with no significant medical history presented with a two-month history of metrorrhagia. On physical examination, a firm, non-tender mass was palpable in the left pelvic region. The cervix appeared macroscopically normal, although a slight abnormal consistency was noted during vaginal examination.

* Corresponding author: A. AKAMMAR

Pelvic ultrasound revealed a heterogeneous left latero-uterine mass with both solid and cystic components, predominantly solid, measuring approximately **70 × 40 mm**. To further evaluate the lesion, a pelvic magnetic resonance imaging (MRI) was performed. It revealed a well-defined mass located in the left broad ligament, adjacent to the uterus, with smooth and regular borders. The lesion exhibited heterogeneous signal intensity on T2-weighted images and hyperintensity on T1-weighted sequences, with mild, progressive enhancement following contrast administration (Figure1). The mass extended to involve the uterine body and fundus. There was no evidence of ascites or peritoneal implants. Both ovaries were not visualized on the examination.

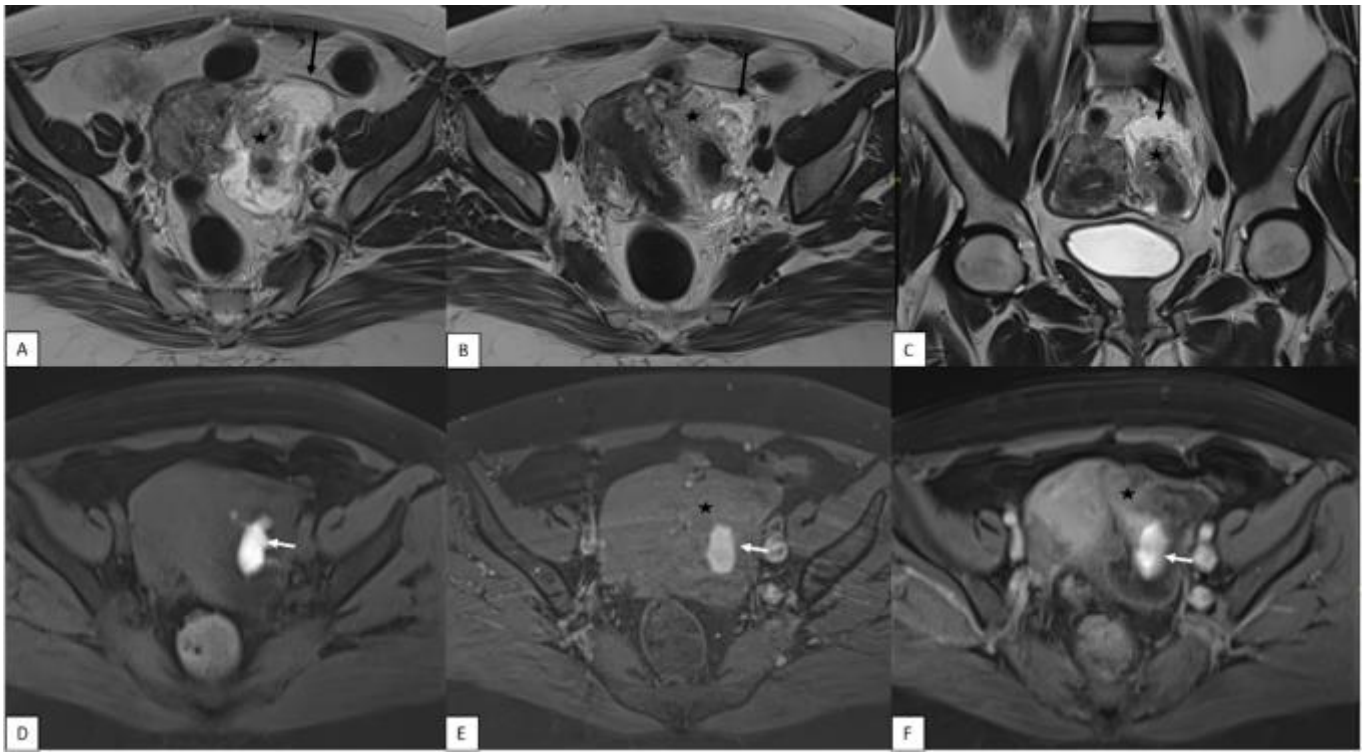

Figure 1 Magnetic resonance imaging (MRI) demonstrates a left latero-uterine mass with heterogeneous signal intensity on T2-weighted sequences (A–C), containing hemorrhagic areas on T1-weighted sequence (D), and showing contrast enhancement after gadolinium administration (E, F)

An exploratory laparotomy revealed a mass originating from the left broad ligament. The uterus and bilateral adnexa appeared macroscopically normal, with no evidence of pelvic adhesions or ascites. A decision was made to perform a hysterectomy with bilateral salpingo-oophorectomy (Figure 2). The postoperative course was uneventful, with no complications observed.

The histopathological examination revealed a well-circumscribed tumor composed of a vascular component, consisting of capillaries lined by regular endothelium, and a spindle cell component with alternating hypo- and hypercellular areas concentrated around the vascular structures. The tumor cells were spindle-shaped, with elongated nuclei and eosinophilic cytoplasm. The stroma appeared myxoid and edematous, with occasional hemosiderin deposits. Immunohistochemical analysis showed that the tumor cells were positive for desmin, estrogen receptor, progesterone receptor, and h-caldesmon, while CD34 highlighted the benign vascular component. These histological and immunohistochemical features are consistent with a diagnosis of angiomyofibroblastoma (Figure 3).

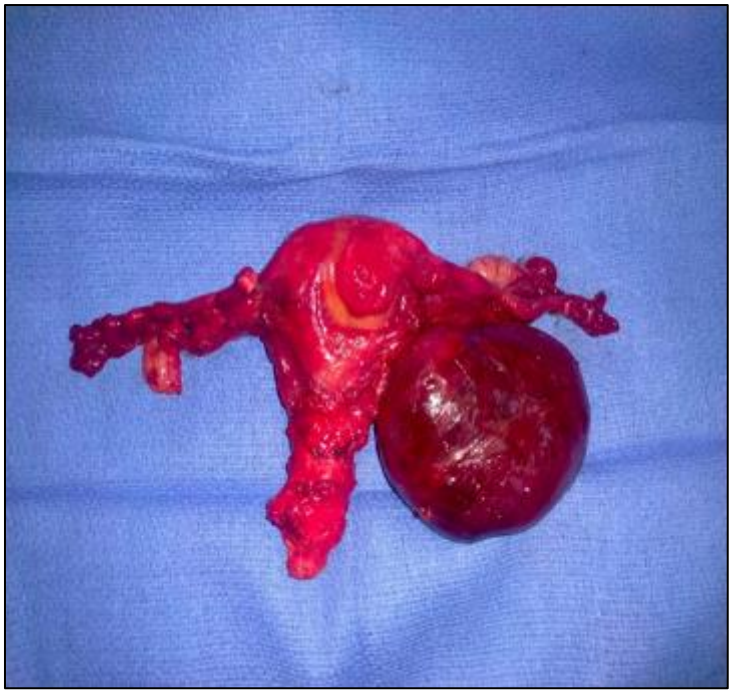

Figure 2 Intraoperative view showing the left latero-uterine tumor

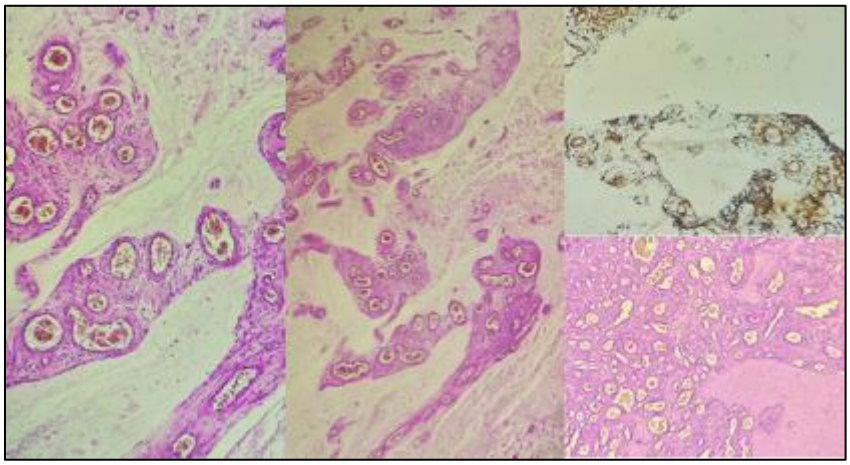

Figure 3 Images of histopathological and immunohistochemical analysis

3. Discussion

Angiomyofibroblastoma (AMFB) is a rare, benign mesenchymal tumor predominantly affecting the female genital tract, most commonly the vulva and vagina in premenopausal women. Involvement of the broad ligament is exceptionally rare [1]. Clinically, it presents as a slow-growing, painless, well-circumscribed mass, typically in women of reproductive or middle age. The tumor does not metastasize, and complete surgical excision is considered curative [2].

Preoperative diagnosis of AMFB remains challenging due to its nonspecific clinical and imaging features and the overlap with other soft tissue tumors. On ultrasonography, AMFB has been described as a well-demarcated lesion with heterogeneous echotexture, showing multiple hypoechoic areas within an echogenic stroma. Magnetic resonance imaging (MRI) typically demonstrates a well-circumscribed mass that is hypointense on T1-weighted images, hyperintense on T2-weighted images, and shows homogeneous enhancement after gadolinium administration. Central necrosis or degeneration is uncommon but does not exclude the diagnosis. Variations in T1 and T2 signal intensity are thought to reflect differences in lipid and collagen content within the tumor [2,3,4].

Distinguishing AMFB from aggressive angiomyxoma is particularly important, as both may occur in similar locations and share overlapping histological and MRI characteristics. Aggressive angiomyxoma often exhibits a swirled or layered appearance on T2-weighted and contrast-enhanced images and may display an infiltrative growth pattern, displacing adjacent structures. Identification of these imaging features can aid in differentiating it from AMFB, which typically remains well-circumscribed without infiltration [2,5].

Histopathologically, AMFB is characterized by spindle-shaped tumor cells with elongated nuclei and eosinophilic cytoplasm, arranged around vascular structures in a myxoid stroma. Immunohistochemical analysis usually demonstrates positivity for desmin, estrogen and progesterone receptors, and h-caldesmon. In some cases, including ours, CD34 may also be positive, although this finding is less common. These features help confirm the diagnosis and differentiate AMFB from other mesenchymal neoplasms [1].

Overall, AMFB is a benign tumor with an excellent prognosis. Surgical excision is curative, with minimal risk of recurrence or metastasis. Awareness of its imaging and histopathological characteristics is essential to ensure accurate preoperative diagnosis and appropriate management [1].

4. Conclusion

Although the broad ligament is an exceptionally rare location for angiomyofibroblastoma (AMFB), histopathological examination remains essential for definitive diagnosis. Imaging modalities, particularly ultrasound and MRI, are increasingly valuable in suggesting the diagnosis preoperatively. Despite its rarity, awareness of AMFB and its distinguishing features is important to differentiate it from other soft tissue tumors that may require more aggressive management.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Hsiao-Chin Huang, and all. Angiomyofibroblastoma of the Broad Ligament: A Case Report, Int J Gynecol Pathol, 2017 Sep;36(5):471-475.

[2] Mehmet Tunc Candaa, and all., Angiomyofibroblastoma of the left broad ligament mimicking ovarian tumour, J Obstet Gynaecol, 2021 Feb;41(2):316-318.

[3] Benjamin Wolf, and all, Ultrasound plays a key role in imaging and management of genital angiomyofibroblastoma: a case report, Journal of Medical Case Reports, 2015 volume 9, 248

[4] Junzu Geng · Shuqi Hu · Fujiang Wang, Large paravaginal angiomyofibroblastoma: magnetic resonance imaging findings, Jpn J Radiol, 2011 Feb;29(2):152-5

[5] Jo, J.Y.; An, H.J.; Jo, I.A.; Shin, J.K.; Choi, W.J.; Baek, J.C., Cystic Angiomyofibroblastoma of the Uterus Mimicking Ovarian Cancer. *Medicina* 2024,*60*,1645. https://doi.org/ 10.3390/medicina60101645