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RESEARCH ARTICLE

Renal angiomyolipoma: report of a case with review of the literature

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Abstract

Renal angiomyolipoma is a benign mesenchymal tumor made up of varying proportions of fatty tissue, smooth muscle, and thick-walled blood vessels. We report the case of a young patient with no specific history with an angiomyolipoma revealed by chronic low back pain.

1 | INTRODUCTION

Renal angiomyolipoma is a benign mesenchymal tumor, composed of varying proportions of adipose tissue, smooth muscle, and thickened-walled blood vessels (1) .

2 | OBSERVATION

This is a 40-year-old patient with no special medical ATCDs. Admitted for chronic right back pain, evolving for 1 year without other urinary or extra-urinary signs. All of this evolving in a context of apyrexia and preservation of the general condition. The clinical examination objected to lumbar contact. The uro-CT found a 5 cm upper right polar kidney mass with no x-ray signs of malignancy. The therapeutic course of action was a partial nephrectomy. Macroscopic examination of the right partial nephrectomy patch found a beige-colored, soft-consistency neoplasm measuring 4x3x2.1cm, located 0.2cm from the capsule and appeared to arrive macroscopically at the limit of surgical resection. On microscopic examination, it is a renal parenchyma with benign triphasic tumor proliferation, composed of mature adipose tissue made up of regular adipocytes. The second component is made up of large hyaline-walled vessels. The third component is made up of interlocking spindle cells. The cells are eosinophils with regular nuclei. This proliferation remains 0.2cm from the nearest kidney capsule (1) , (2) .

The immunohistochemical study carried out with anti HMB45, Melan A, AML and CK antibodies is in favor of the diagnosis.

Supplementary information The online version of this article contains supplementary material, which is available to autho-rized users.

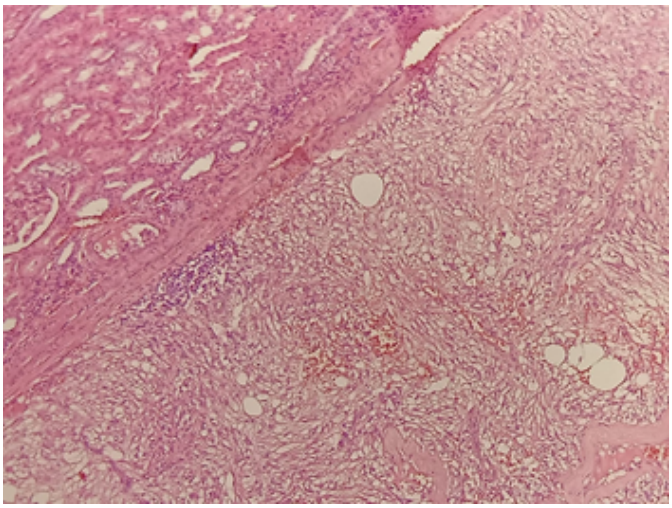

FIGURE 1: The border between angiomyolipoma and the kidney (x10)

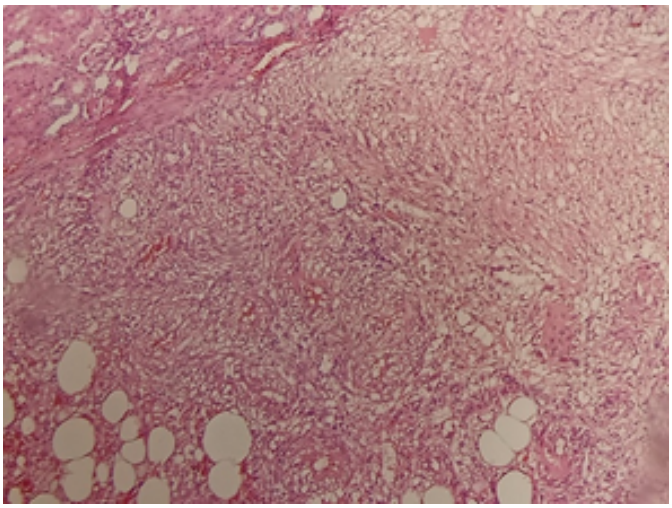

FIGURE 2: mixtureof myoid spindle cells, mature adipose tissue and dysmorphic thick walledblood vessels (x20)

3 | DISCUSSION

Angiomyolipoma (AML) is a benign tumor that accounts for 1 to 3% of solid kidney tumors. Classically, this type of tumor is part of Tuberous Sclerosis of Bourneville (TBS). Renal involvement is then multiple and bilateral in 50 to 80% of cases. However, renal AML can be discovered apart from any phacomatosis, it is then isolated, unilateral with a strong female predominance (1, 2) .

In the majority of cases, AML is an isolated, single, asymptomatic tumor, discovered by chance in women, The clinical manifestations are identical in the sporadic forms and in the forms associated with TBS, the symptomatology is dominated by low back pain, hematuria which can be microscopic or macroscopic (1–3) .

Abdominal computed tomography has established itself as the examination of choice in the detection of kidney tumors, it will in the vast majority of cases allow a positive diagnosis of AML, subject to a correct examination technique. Its sensitivity is close to 90% in terms of diagnosis of AML (4, 5) . The objective is the demonstration within the renal mass of a fatty component, characterized by negative densities associated with the vascular and meiomyomatous contingent, Adison proposed a classification of AML into 4 tomodensitometric types (6) : Type-I : mainly fatty (usually less than 2 cm in diameter and intra renal): 54%; Type-II: partially fatty (intrarenal or budding): 29%; Type-III: low in fat (more budding and peri-renal): 11%; Type-IV: fat-free, can be small or large, intra-renal or budding, but still homogeneous and hyperdense: 6%.

Microscopic examination shows a variable mixture of myoid spindle cells, mature adipose tissue and dysmorphic thick walled blood vessels (Classic triphasic histology). Smooth muscle component appears to originate from vessel walls and may be hypercellular, atypical, pleomorphic or epithelioid. Vascular component is in the form of thick walled hyalinized vessels. Fat component is in the form of mature adipose tissue.

Hemorrhage, mitotic figures, necrosis and multilobated nuclei and multinucleation are common.

The border between angiomyolipoma and the kidney is tipically sharp, although renal tubules may be entrapped at the periphery of some tumours.

Angiomyolipomas are characterized by coexpression of melanocytic markers (HMB45, Melan A, and microphthalmia transcription factor) and smooth muscle markers (smooth muscle actin and calponin). CD68, S100 protein, estrogen and progesterone receptors and desmin may also be positive, whereas epithelial markers are always negative. The coexpression of melanocytic and smooth muscle markers in myoid-appearing and lipid-distended cells supports the idea of angiomyolipoma (1, 2) .

Conventionally, the treatment of AMLs greater than 4 cm is surgical by total or partial nephrectomy; however during the last decade many conservative alternatives have emerged with the aim of preserving renal unity (2, 4) (7) (6) .

Symptomatic tumors 4 cm or larger should be treated with angiography. Depending on, selective embolization, lumpectomy or partial nephrectomy should be discussed;

4 | CONCLUSION

Angiomyolipoma is a rare benign renal tumor, its main progressive risk remains spontaneous bleeding rupture which can threaten the patient's life-threatening prognosis and malignant transformation for the epitheloid variant. (8)

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