Urology Case Reports 34 (2021) 101506

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: http://www.elsevier.com/locate/eucr

Oncology

Adrenal lipoma: A case report and literature review

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ARTICLE INFO

Keywords:
Adrenal gland
Lipoma
Lipomatous

ABSTRACT

The study reports a case of a 57-year-old female patient with incidental right adrenal lipoma (LA). The tumor was detected by ultrasound (US) and confirmed by computed tomography (CT).

Due to the size of the mass, it was decided to perform a laparoscopic adrenalectomy.

During the differential microscopic diagnosis, were considered adrenal lipomatous tumors, myelolipoma, angiomyolipoma and teratomas, among others.

In all these neoplasms, LA is a rare tumor, with only 24 cases reported in the anglo-saxon literature revised. It is a benign adrenal gland tumor with generally asymptomatic and non-functioning nature.

Introduction

Adrenal gland lipomas (LA) are extremely rare tumors with relatively little case series published.[1–3] Those are included among the lipomatous tumors of the adrenal glands, which also includes myelolipomas and teratomas.[2,4] LA are part of the non-functioning adrenal masses that are usually incidental findings in studies for other pathologies, either ultrasound (US), computed tomography (CT) or magnetic resonance imaging (MRI).[2,5]

The present study reports a rare case of LA with clinical, radiological, surgical and pathological correlation, following of a literature review.

Case presentation

A 57 years-old female patient with low back pain, hypertension and type I obesity (Body Mass Index = 33.2), with incidental finding in US of a 5 cm pseudonodular hyperechoic area in right hepatorenal fossa. On CT, a 45 × 45 mm right adrenal gland dependent lesion with fatty areas (Fig. 1).

Due to patient's symptoms and the results of complementary tests (lesion size greater than 4 cm), it was decided to perform laparoscopic excision of the right adrenal gland.[4]

Macroscopically, the smooth surface adrenalectomy piece with a white-purple coloration, measured 7.8 x 6.8 × 3 cm and weighed 25 gr. At cut, the consistency was variable from moderate to soft. A well-defined and homogeneously yellowish lesion was identified in its thickness, surrounded by a not very apparent thin brownish strip of adrenal gland (Fig. 2) and measured 5.5 × 4.5 cm in its major axes. Microscopically, adrenal cortex is atrophic and compressed by a well-defined and partially encapsulated formation which consists of mature monovacuolar adipose tissue (Fig. 3A and B).

Discussion

Since the first case of LA described by Lange in 1966, up to 24 cases have been reported in the Anglo- Saxon literature.[1] Those constitute very rare neoplasms with sporadically isolated publications, without exceeding 3 cases study series [1,2,3]. They represent the 0.7% of adrenal tumors[5] and the 4% of adrenal lipomatous tumors.[3]

Unlike the rest of the adrenal lipomatous lesions, LA is more frequent in male (3:2) with an average age of 54 years.[1] Most of the cases were observed in asymptomatic patients, being diagnosed by chance in US, CT and MRI imaging studies.[1,5] If any symptoms occur, the most frequent would be low back pain1.

The studies showed that the adrenal incidentalomas, which include LA, are usually unilateral and located in the right gland.[1] Tumor size varies between 1 cm or 18 gr in weight, and giant lipomas (greater than 8 cm) reaching 20 cm and almost 3 Kg of weight[1] Our case falls within

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https://doi.org/10.1016/j.eucr.2020.101506
Received 22 October 2020; Received in revised form 19 November 2020; Accepted 21 November 2020
Available online 24 November 2020

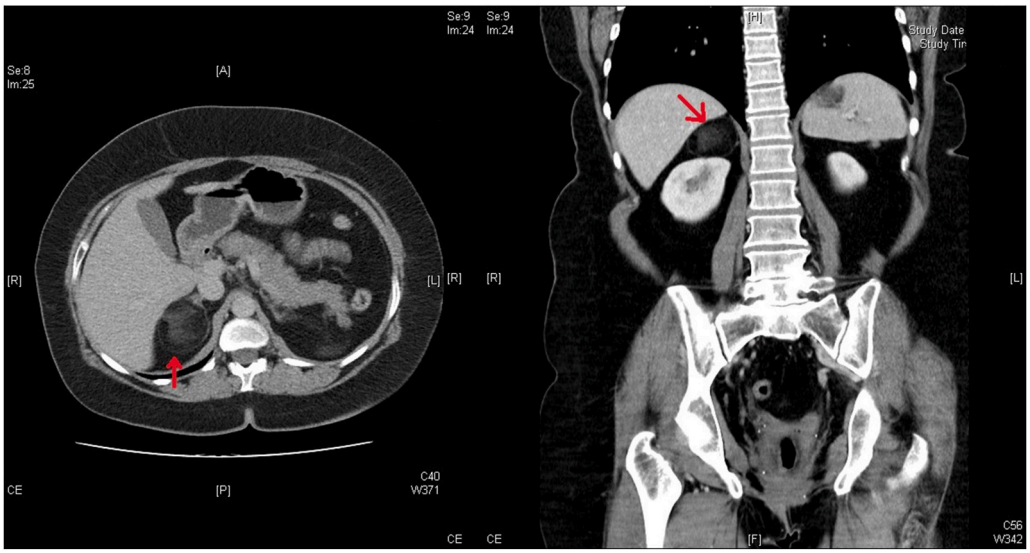

Fig. 1. Abdomen CT: A right adrenal gland dependent lesion with areas of fat in its thickness.

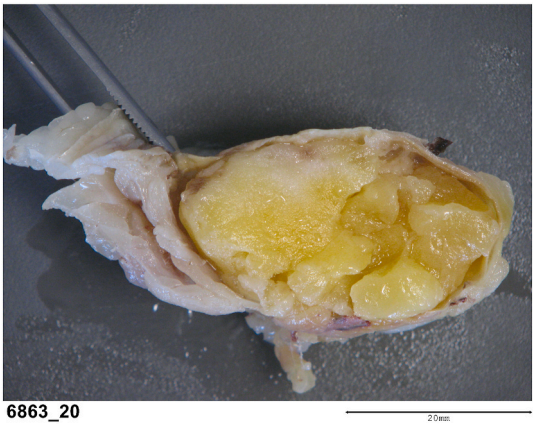

Fig. 2. Macroscopic view of the adrenal gland peripherally rejected as a shell, due to nodular and yellowish formation of fatty appearance.

the range of referred pathological characteristics.

On histopathological examination, highlights that lipomas are made up of mature or monovacuolar adipose tissue, although areas of calcification and inflammation can also be observed, without appreciating histological signs of malignancy[1,5] Regarding the microscopic differential diagnosis, the non detection of hematopoietic tissue in the lipomatous adrenal tumor, excludes the relatively more frequent myelolipoma.[1] The absence of other heterologous tissues (cartilage, etc.) eliminates the teratoma, as well as the angiomyolipoma (pecoma), which offers muscle fascicles and a vascular component.[1] As result of its cytological characteristics, it is distinguishable from hibernoma, while the absence of cellular atypia eliminates the extremely rare liposarcomas[1]

Statement of ethics

The patient concent the publish details and photos of the case.

Declaration of competing interest

There are no conflicts of interest.

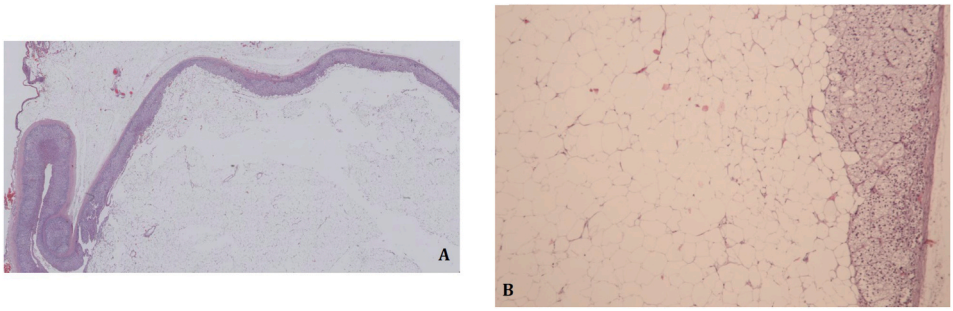

Fig. 3. A Scanned microscopic image of tumor surrounded by thinned and atrophic-appearing adrenal cortex (Hematoxylin-eosin, x1) B Adrenal cortex compressed and atrophied by a well delimited and partially encapsulated formation, which consists of monovacuolar mature adipose tissue (Hematoxylin-eosin, x50).

Acknowledgement

We would like to thank for him participation: Sonia García Hernández.

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