SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Mature Retroperitoneal Teratoma of the Adults: A Case Report

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DOI: 10.36347/sasjs.2021.v07i05.009 | **Received:** 09.04.2021 | **Accepted:** 16.05.2021 | **Published:** 27.05.2021

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Abstract **Case Report**

Mature retroperitoneal teratoma is a rare anatomopathological entity in adults. We report a case of retroperitoneal teratoma in a 23-year-old female patient. The clinical picture of the patient is represented by left lumbago. The clinical examination found an impaction of the left flank with an abdominal ultrasound and CT scan, a retroperitoneal tumor with a triple component (fluid, fat, and calcium) making the diagnosis of retroperitoneal teratoma. The treatment consisted of a total removal of the tumor. Histopathological examination confirmed the diagnosis of mature retroperitoneal teratoma with no sign of malignancy. The postoperative course was simple.

Key words: Teratoma; retroperitoneal; adult; mature.

INTRODUCTION

Teratomas are formed from somatic cells from two or more germ layers (ectoderm, mesoderm or endoderm). Retroperitoneal teratomas in adults are rare, representing only 1-11% of all primary retroperitoneal tumors [1]. They are usually benign and asymptomatic.

Imaging plays a crucial role in the positive diagnosis in the presence of the three usual components of teratomas and in the differential diagnosis, in the assessment of extension and in the post-surgical follow-up. Through this observation, we expose the main characteristics of this tumor and its operative difficulty by its intimate relationship with the large vessels.

OBSERVATION

A 23 year old female patient had no previous pathological history. She complained of intermittent left lumbago, without associated urinary, digestive or gynecological disorders.

On clinical examination, the patient was apyretic. Her conjunctiva were normally colored, and her abdomen was soft. There was no lumbar contact on palpation. The lymph nodes were free. Abdominal ultrasound revealed a heterogeneous cystic mass over the left kidney.

Abdominal CT showed a retroperitoneal mass measuring 12 cm. This process was heterogeneous, with both fluid and tissue components. The tissue component was discreetly contrast-enhanced (Fig. 1A, 1B). The patient underwent a wide left subcostal approach. After detachment of the left colonic angle, the retroperitoneal mass was discovered, whitish in appearance, mobile, latero-aortic, in intimate contact with the aorta and the diaphragm superiorly. This mass was progressively released and a total removal of the mass was performed. The postoperative course was simple.

Histopathological examination of multiple specimens taken from the tumor showed a mature pluritissular appearance corresponding to the derivatives of the three embryonic leaflets, concluding to a mature retroperitoneal teratoma (Fig. 2A, 2B).

The radiological and biological follow-up of the patient did not reveal any recurrence after 3 years.

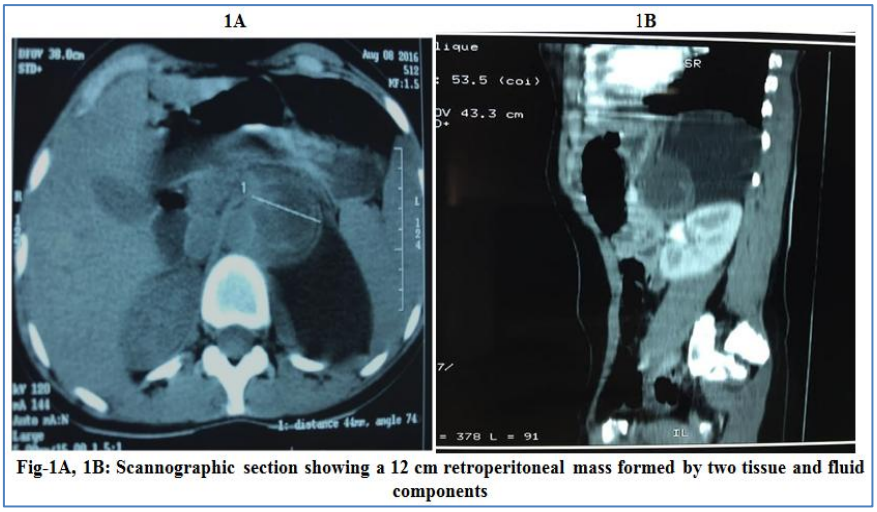

Fig-1A, 1B: Scannographic section showing a 12 cm retroperitoneal mass formed by two tissue and fluid components

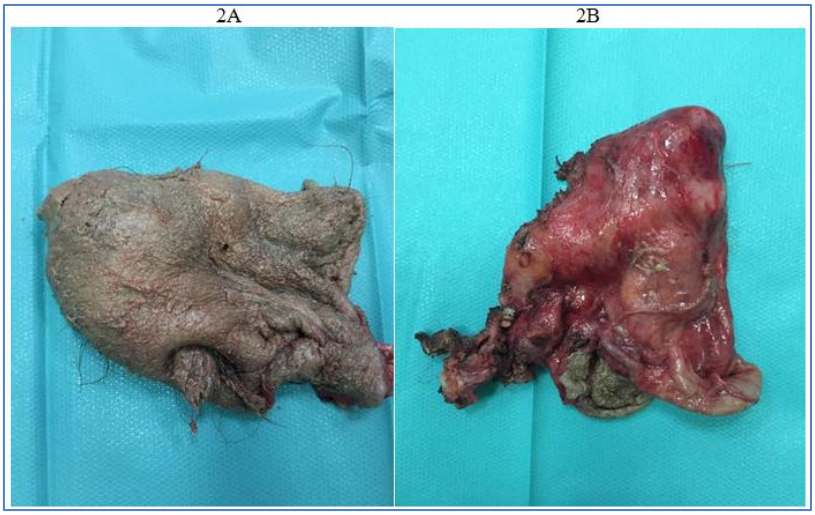

Fig-2A, 2B: internal (A) and external (B) macroscopic appearance of the specimen containing calcifications, sebaceous glands and hair

DISCUSSION

Retroperitoneal teratoma is a rare vestigial tumor, its incidence is 0.3 to 3% of all tumors and 1 to 10% of primary retroperitoneal tumors in children [2, 3].

Teratoma is the most common type of germ cell tumor in humans, and most of these tumors are benign. They are generally classified into three categories: mature (cystic/solid, benign), immature (malignant), and mondermal (highly specialized) [4].

Retroperitoneal teratoma is often located near the upper pole of the kidney with preponderance on the left side. It is seen in women twice as much as men [5].

The peak age reported is between 20 and 40 years [6]. Most patients are asymptomatic and when the tumor compresses adjacent structures, due to its growth, it can bring pain, bloating, nausea and vomiting [7].

Ultrasound represents an important tool to make an early diagnosis and to perform postoperative follow-up. Computed tomography (CT) or magnetic resonance imaging (MRI) are used to identify the various elements of these tumors, including soft tissue density structures, adipose tissue and calcifications. These imaging techniques are also able to indicate the precise location, morphology, and adjacent structures of the tumor, allowing for better preoperative planning and more complete removal of the tumor with less damage [8].

Alpha foeto protein is produced by teratomas as a specific tumor marker [9]. Abnormal elevation of serum carcinoembryonic antigen (CEA) and carbohydrate antigen (CA) 19-9 levels have been reported in primary retroperitoneal teratomas [10].

Treatment of retroperitoneal teratoma is purely surgical [11, 12]. The most important anatomical structures to be aware of are the aorta, vena cava, superior mesenteric vessels, celiac trunk and duodenum. Damage to these structures can lead to cataclysmic hemorrhage and postoperative complications will be severe and even result in death [11-13].

Postoperative monitoring is based on imaging, especially CT, and alphafoetoprotein assay. Benign teratomas treated surgically have a good prognosis and no cases of recurrence have been found in the literature [14].

CONCLUSION

Retroperitoneal teratoma is a rare tumor in adults. The retroperitoneal site of teratoma is in 4th position after the ovaries, the testis and the anterior mediastinum. Medical imaging is an essential tool for the diagnosis of the tumor, its localization in relation to the large vessels and neighboring organs, and postoperative follow-up.

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