

Giant primary retroperitoneal teratoma in an adult male: A rare entity

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ABSTRACT

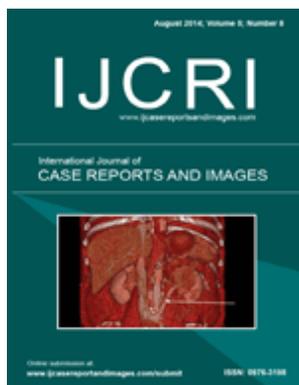
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Case Report: Herein, we describe an unusual case of a 28-year-old male patient referred to our hospital for a retroperitoneal tumor diagnosed by computed tomography scan and confirmed by histological examination as a retroperitoneal teratoma. Surgical excision was performed. The patient is doing well after 26 months of follow-up.

Conclusion: Primary retroperitoneal teratoma is a rare entity in adults. Preoperatively, the diagnosis can be established by its characteristic appearance on computed tomography scan. Surgery is the mainstay of treatment and the prognosis is excellent for benign retroperitoneal teratoma if complete resection can be accomplished.



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CASE REPORT

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Introduction: Primary and giant retroperitoneal teratoma is a rare entity in adults which occurs more commonly in females than males. **Case Report:** Herein, we describe an unusual case of a 28-year-old male patient referred to our hospital for a retroperitoneal tumor diagnosed by computed tomography scan and confirmed by histological examination as a retroperitoneal teratoma. Surgical excision was performed. The patient is doing well after 26 months of follow-up. **Conclusion:** Primary retroperitoneal teratoma is a rare entity in adults. Preoperatively, the diagnosis can be established by its characteristic appearance on computed tomography scan. Surgery is the mainstay of treatment and the prognosis is excellent for benign retroperitoneal teratoma if complete resection can be accomplished.

Keywords: Retroperitoneal, Giant teratoma, Male patient, Congenital tumor

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INTRODUCTION

Teratomas are uncommon congenital tumors, derived from embryonal tissue and composed of somatic cell types from two or more germ layers (ectoderm, mesoderm or endoderm) [1]. This entity belongs to a class of tumors known as non-seminomatous germ cell tumor and is typically located in either the sacrococcygeal region or in the gonads [2]. Retroperitoneal teratomas are rare in adults and commonly identified in early childhood [3]. Malignant mature cystic teratomas (0.2–2% of cases) have the potential to metastasize to sites such as the retroperitoneal lymph nodes and lung parenchyma [4, 5].

CASE REPORT

A 28-year-old male, with no medical history, was admitted to our hospital complaining of abdominal pain and a palpable mass that was constantly growing up during the last month. Abdominal examination revealed a firm, sizeable and hard mass at the right abdomen. Routine laboratory tests were all within normal ranges.

Contrast-enhanced computed tomography scan of the abdomen revealed a large retroperitoneal non-enhancing mass of size 31×12×10 cm (Figures 1 and 2).

The mass was compressing right lung, liver and right kidney. It was also well capsulated. The presence of fat and bone inside the mass was highly indicative of a benign cystic teratoma. Ultrasound-guided fine-needle

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Figure 1: Computed tomography (CT) scan showing a large, right sided retroperitoneal mass with bone and soft tissue.

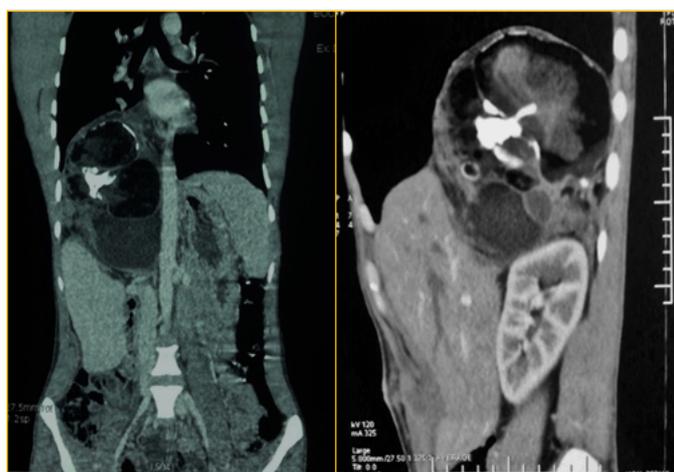


Figure 2: Computed tomography scan with contrast showing a retroperitoneal mass containing bone, soft tissue, and cystic elements.

aspiration cytology (FNAC) of the mass was non-specific. Tumor markers including alpha-fetoprotein (AFP), were within normal reference range. The patient was planned for surgical excision of the tumor. Total excision of the tumor was performed through a thoracolaparotomy.

The tumor was dissected from its attachments to right lung, vena cava, liver, hepatic veins, right kidney and diaphragm. The retroperitoneal dissection was difficult, but the lesion was excised in totality.

Histopathology confirmed the diagnosis of a primary cystic teratoma, benign in nature, with no malignant cells present. The patient made an uncomplicated post-operative recovery and is doing well on follow-up after two years.

DISCUSSION

Overall, primary retroperitoneal teratomas constitute about 1–11% of all primary retroperitoneal tumors [6]. It is occurring commonly at an earlier age with a female predominance [7], in contrast to our case. Teratomas

are generally divided into two histological types, mature which are generally benign and immature which have inherent malignant potential [8].

A mature teratoma is adult type lesion and consists of well differentiated elements, while an immature teratoma contains only partial somatic differentiated elements [9]. Although these tumors are mostly asymptomatic and may be diagnosed as an incidental finding, they can cause abdominal distension and pain, nausea vomiting and genitourinary symptoms via compression of surrounding structures [10], as well as lower extremity or genital edema secondary to lymphatic obstruction [11]. The imaging is the gold standard of diagnosis of a retroperitoneal teratoma [12].

Radiological manifestations of teratomas are presence of calcification which is seen in 50–60% cases and is often helpful in making diagnosis preoperatively [13]. Also commonly seen are teeth and fat [14]. Abdominal ultrasonography has an important contribution for an early diagnosis and a postoperative follow-up.

It can demonstrate echo complex tumors with cystic and solid components and echogenic spots with acoustic shadows [15]. A computed tomography (CT) scan or magnetic resonance image (MRI) scan can identify various components of these tumors, and are also able to give more precisions about location, morphology of the tumor and to demonstrate its intimate relationship with adjacent organs, in order to improve preoperative planning and garantier a complete removal with less damage [9].

Magnetic resonance imaging scan is superior to both ultrasound and CT scan in defining the anatomical relationship of the teratoma with adjacent organs and local tumor spread [16, 17]. The MRI scan can also distinguish different components of the mass as well as fluid, calcium, fat, and soft tissue elements, and also it is able to predict resectability and to study recurrence [18]. There is no specific tumor marker for teratomas though some immature (malignant) teratomas have been associated with elevated AFP levels [19].

Other tumor markers such as carcinoembryonic antigen (CEA) and carbohydrate antigen (CA) 19-9 were elevated in some cases of primary retroperitoneal teratomas [20]. In this case, tumor markers including AFP were all within normal ranges.

Complete surgical excision remains the mainstay of treatment for mature teratomas and is the main guarantor for definitive diagnosis [8]. Complete surgical resection is associated with the best survival rates for primary retroperitoneal tumors [21].

An initial course of chemotherapy may reduce the size of unresectable or marginally resectable retroperitoneal teratomas before surgical resection [22]. Fifty percent of men with retroperitoneal tumors also have concomitant testicular carcinoma in situ; that is why testicular ultrasound is necessary to exclude a coexisting testicular germ cell tumor [23].

CONCLUSION

Primary retroperitoneal teratoma is a rare tumor in adults. Its characteristic appearance on computed tomography scan can allow preoperative diagnosis. Surgery is the mainstay of treatment and the prognosis is excellent for benign retroperitoneal teratoma if complete resection can be accomplished.

Author Contributions

Malek Barka – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Faouzi Mallat – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Wissem Hmida – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Khaled Ben Ahmed – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Sidiya Ould Chavey – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Amel Ben Abdallah – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Kalthoum Tlili – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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