J Turgut Ozal Med Cent
ISSN 1300-1744 2017;(24:2):220-2
Submit a Manuscript: http://my.ejmanager.com/totm/ DOI: 10.5455/jtomc.2017.01.011

CASE REPORT

Paratesticular liposarcoma: ultrasonography findings

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Abstract
Genitourinary system sarcomas constitute 1-2% of all urological tumors. Paratesticular liposarcoma a very rare tumor accounts for 3-7% of paratesticular sarcomas. In this article, we presented a 67 year-old patient with a painless mass-swelling in the left testicular region for about 1 year. Imaging findings revealed a large heterogeneous mass in the left scrotal sac observed with a lobulated contour and hyperechogenic areas, approximately 74x34 mm in size, no test planes with testis, epididymis and spermatic cord. The mass was treated with orchiectomy. Histopathological evaluation of the tumor was reported as pleomorphic liposarcoma with paratesticular placement. We decided to present a rare case with ultrasonography (US) and Doppler US findings.

Keywords: Sarcoma; Scrotum; Ultrasonography; Doppler Ultrasonography.

INTRODUCTION

Sarcomas seen in the genitourinary system constitute 1-2 % of all urological tumors. Testis-localized sarcomas are rare tumors that can interfere with other testicular malignancies (1). Liposarcoma is rare and constitutes 3-7 % of paratesticular sarcomas (2,3). The paratesticular tissue forms the spermatic cord, the testicular tunica, and the epididymis. In this region, the spermatic cord is the most common site for sarcomas (4,5).

Ultrasonography (US), Doppler US, multislice computerized tomography (MSCT), and magnetic resonance imaging (MRI) are used in the radiological diagnosis of testicular masses (6). In this article; in a 67-year-old male patient, with pleomorphic liposarcoma in the left scrotum was presented in the presence of US and Doppler US findings.

CASE

A 67-year-old male patient was admitted to our hospital with painless swelling in the left scrotum that was present for about 1 year. Patient did not reveal any significant features in their resume and history. Routine biochemistry and tumor markers were normal. On scrotal physical examination, left, painless, hard, fixed, solid mass was detected. Examined by US; A heterogeneous solid mass lesion was observed with a lobulated contour and hyperechogenic areas in the left scrotal sac, approximately 74x34 mm in size, with no test planes with testis, epididymis and spermatic cord (Figure 1). Doppler US examination showed a lesion with intense vascular arterial and venous blood (Figure 2).

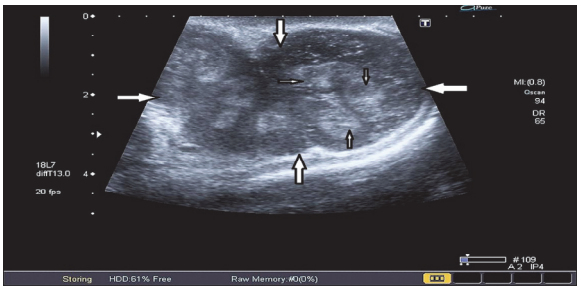

Figure 1. In the testicular US; A solid mass lesion is observed with a heterogeneous echo, lobulated contour, in a scrotal sac (big arrows). The hyperechogenic areas that may be compatible with adipose tissue in the lesion are noted (small arrows).

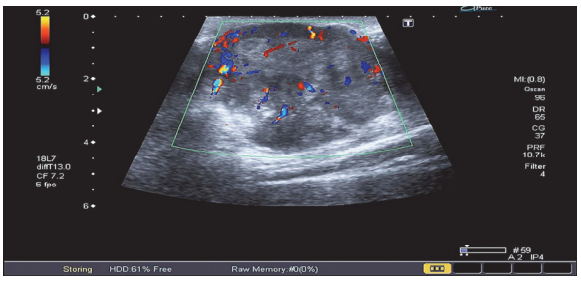

Figure 2. Doppler US scan showing lesion intensive vascular flow.

Received: 01.02.2017
Accepted: 27.02.2017

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In the inguinal region and within the abdomen, there was no lymph node in pathological size and appearance. Orchiectomy and total mass resection were performed under general anesthesia. Histopathologic examination revealed pleomorphic liposarcoma without testicular invasion (Figure 3). No recurrence or metastasis was observed in the follow-ups performed during the 2-year period.

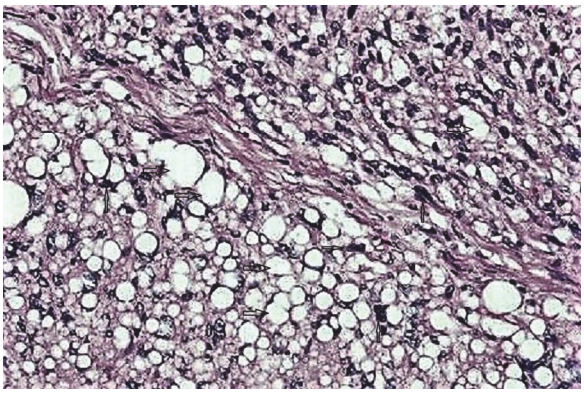

Figure 3. In histopathological examination; lipoblasts with irregular shapes (thick arrows), stromal atypical cells and spindle-shaped cells (thin arrows) (HEx200).

DISCUSSIONS

Malign tumors are rare in the paratesticular area. The majorities of malign tumors in this area occurs in the epididymis and include sarcoma, metastasis and adenocarcinoma. Leiomyosarcoma (32%), rhabdomyosarcoma (24%) and liposarcoma (20%) are the most common sarcoma subtypes (7). Liposarcomas are histologically well divided into four groups as differential, dedifferentiated, myxoid round-cell and pleomorphic liposarcoma (8). Approximately 50% of paratesticular liposarcoma cases are well differentiated liposarcoma. Pleomorphic liposarcoma is more rare (9).

The age of onset in these cases is reported to be 50-60 years. Clinical findings of the cases are similar and they usually present with painless slow-growing scrotal mass. They can reach different sizes (3-20 cm). They can be very rarely bilateral (10).

Histopathologically, dissociated tumors, well differentiated tumors, atypical lipomas, and scrotal hernia should be considered. In addition, high grade pleomorphic sarcoma, pleomorphic leiomyosarcoma, pleomorphic rhabdomyosarcoma, pleomorphic malignant peripheral nerve sheath tumor and malignant fibrous histiocytoma should be evaluated separately (8,9). Histologically pleomorphic liposarcoma is diagnosed by demonstrating pleomorphic lipoblasts in hematoxylin eosin (HE) sections. Immunohistochemical methods help in diagnosis (11).

Radiologically, US findings may vary from hypoechoic to heterogeneous masses in different echoes, depending on the content of fat in them. Intensive arterial vascular flow is recorded at the Doppler US. In MSCT examination, fat density can be shown in the mass. In MRI, hyperintensity fat signal appearance is obtained in T1 weighted images. It may exhibit heterogeneous contrast enhancement following contrast agent use. Liposarcomas may also help distinguish benign lipomas from nodules that contain thick septal or soft tissue. At diffusion-weighted MRI examinations, diffusion restriction can also be observed at the same time with the mass (6). MSCT and MRI are preferred in cases requiring further investigation. MRI is an alternative imaging option. Both contrast MRI and diffusion weighted imaging can assist in differentiating between benign and malignant lesions (12).

In the literature, less than 200 cases of paratesticular liposarcoma have been reported (3-5). Because of its rarity, there is no consensus on risk, prognostic factors, and management. Initially, the lesion can be mixed with cord cysts, hydrocele or epididymitis, and then confounded by inguinal hernia or testicular tumors (1,13,14). A few cases associated with retroperitoneal involvement have been reported (15). The cases are usually reported as a component of larger studies of isolated cases or liposarcomas (7,11). Montgomery et al. reported 30 paratesticular liposarcomas that involved the spermatic cord (23, 76%), testicular tunics (6, 20%) and epididymis (1, 4%). The lesion sizes were 3-30 cm (mean 11.7 cm) and the mean age was 41-87 years (mean 63) (16). Our case showed similar findings in the literature.

The gold standard diagnostic method in testicular masses is histopathological examination. In treatment; orchiectomy is performed. After surgery, formoderate to high grade disease, chemotherapy and radiotherapy can be applied. Patient can be followed up with decreasing frequency. The prognosis is usually good in paratesticular liposarcomas. However, local recurrence and metastasis rates are high in pleomorphic liposarcomas (30-40%) and 5-year survival is (55-65%) (5).

In conclusion; Paratesticular liposarcomas are quite rare. Differential diagnosis of these tumors containing fat tissue may be difficult in very different form. The primary modality used in the radiological diagnosis is US and Doppler US.

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