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Scrotal myxofibrosarcoma of the spermatic cord presented as left scrotal swelling. The first case report in Ethiopia: a case report

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Abstract

Myxofibrosarcoma of the spermatic cord is a rare form of para-testicular tumor that usually presents with painless scrotal or inguinal swelling. Ultrasonography revealed a solid mass in the scrotum, suggesting a para-testicular tumor, and exploration via a high inguinal incision revealed a large para-testicular mass. Finally, a pathologic examination revealed a low-grade sarcoma favoring myxoid fibrosarcoma. Here, we present the first reported case of myxofibrosarcoma of the spermatic cord in Ethiopia in a 54-year-old male patient and reviewed the available literature on the topic.

Keywords Scrotal, Myxofibrosarcoma, Spermatic cord, Sarcoma

Introduction

Para testicular sarcomas are among the rarest types of sarcomatous tumors, accounting for less than 1% of all sarcomas [1]. The most frequently identified pathological entities are well-differentiated liposarcoma, dedifferentiated liposarcoma, pleomorphic liposarcoma, and leiomyosarcoma, and myxofibrosarcoma may rarely be diagnosed [2–5]. Patients usually present at later age than germ cell tumors with painless scrotal swelling [6]. Diagnosis is made with ultrasound showing a heterogeneous Para-testicular mass and normal serum tumor marker [6]. Histopathology and IHC will give us the final confirmatory diagnosis [7].

Case presentation

A previously healthy 54-year-old male patient who works as a plumber in a hospital presented with a long-standing dragging sensation in the scrotum, mainly in the left scrotum. Approximately one week before his presentation, he sustained blunt trauma to his scrotum and claimed that he had detected left scrotal swelling after the incident. Otherwise, the patient denied any previous diagnosis or detection of scrotal swelling. At presentation, he had mild dull aching pain in his left inguinal area, which did not require analgesics. On physical examination, the patient had 13 cm by 8 cm left scrotal swelling, which was mildly tender, and the mass extended to the external inguinal ring. Separate palpation of the testicle was not possible. The right hemi-scrotal exam was normal.

With a working diagnosis of a left para-testicular intra-scrotal mass, baseline blood work, tumor marker analysis and ultrasonography were performed. Baseline blood

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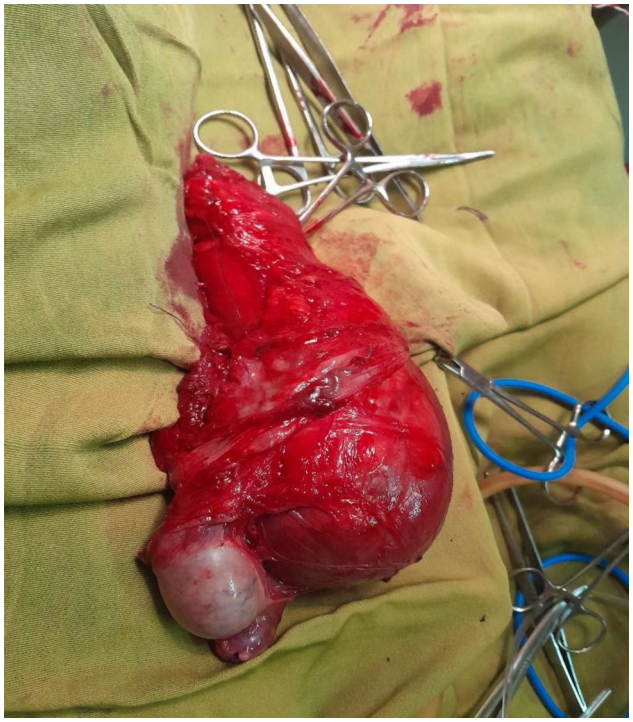

Fig. 1 Showing a Para testicular mass with atrophic testicle and epididymis

work, beta-HCG, AFP and LDH were all within the normal range. Ultrasonography revealed a solid heterogeneous tumor with areas of hypo- and hyperechogenicity arising in the proximal spermatic cord with atrophic left testicle. With a probable diagnosis of left para-testicular tumor, the patient was explored with a spinal anesthesia via a high inguinal incision, and we found a 15 cm by 8 cm mass with a hard consistency that extended from the proximal spermatic cord to the external inguinal ring. The left testicle and epididymis were atrophic and small in size but were not involved by the mass, as shown in Figs. 1. The spermatic cord was suture ligated and divided at the proximal inguinal ring far from the gross tumor margin.

The surgical specimen was sent for pathologic examination. The patient was followed for 1 day in the hospital and discharged on postoperative day 2. Unfortunately, the patient developed a myocardial infarction after he was discharged and was admitted to the cardiac intensive care unit. He was treated in the ICU for 1 week and was discharged home. After 3 weeks, the patient was active, with a barely visible scar in his groin.

On pathologic examination, the tumor proper was 10 cm by 6 cm by 6 cm, and the gross free tumor margin was 9 cm. Microscopically, the tumor has proliferations of spindle and stellate cells with a collagenous and myxoid background admixed with tumor giant cells, perivascular lymphocytic inflammatory infiltrates, and curvilinear vasculature exhibiting mild to moderate

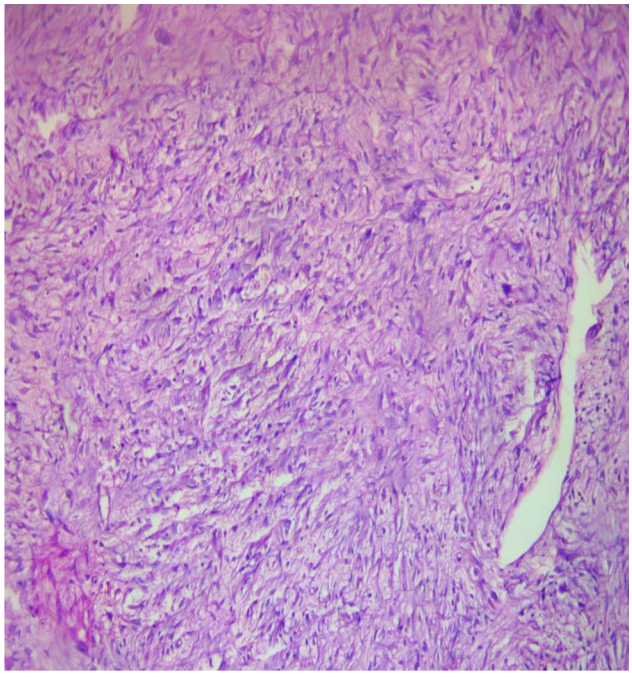

Fig. 2 Showing hypercellular and hyper chromatic focus of the tumor under 20x magnifications

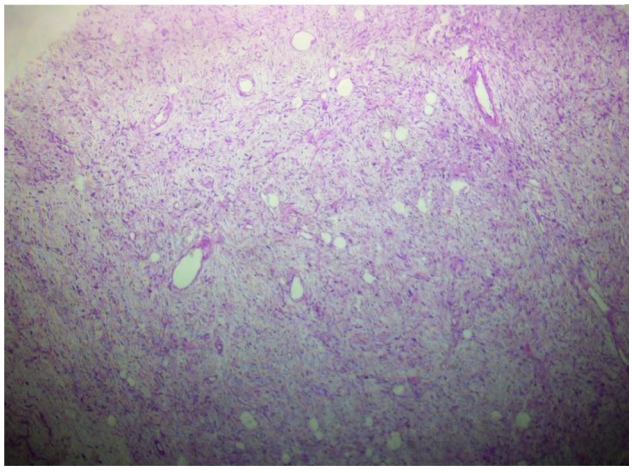

Fig. 3 Showing Hypocellular focus of the tumor under 4x magnification

pleomorphism and infiltration of the surrounding adipose tissue with scant mitosis, as shown in Figs. 2, 3, 4, 5, 6, 7 and 8. On the basis of these findings, a grade I sarcoma favoring myxofibrosarcoma was diagnosed and pathologic stage was T1b. Immunohistochemistry was not performed because of unavailability.

On submission of this case report the patient was on his 5th month after operation. He recovered very well from the operation and from the postoperative acute cardiac event. He is fairly satisfied with his treatment and future care plan. He also has no sign of recurrence to date.

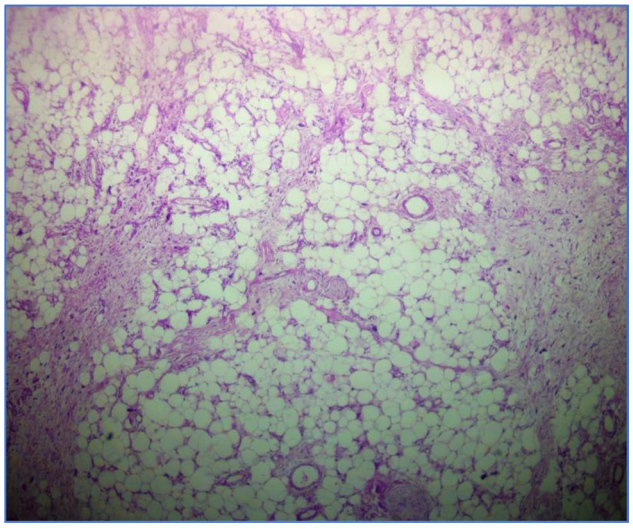

Fig. 4 Showing tumor cells infiltrating adipocytes under 10x magnifications

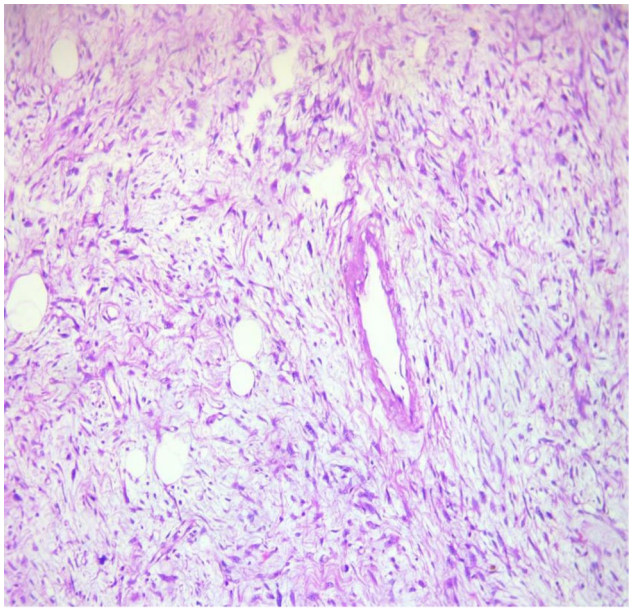

Fig. 5 Showing some spindle to stellate cells under 100x magnifications

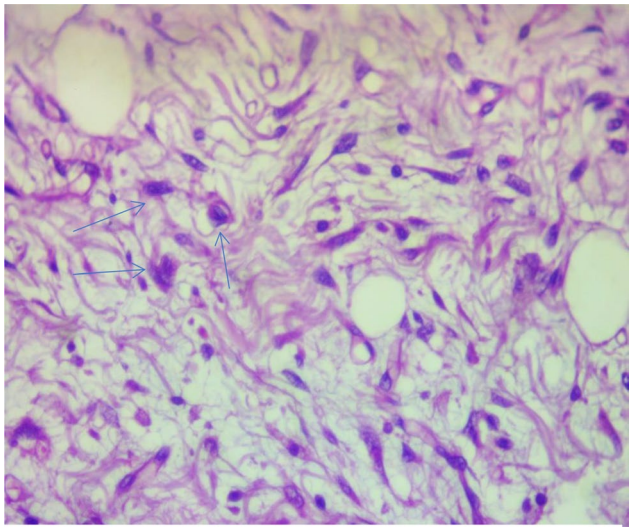

Fig. 6 Arrows showing pleomorphic cells under 200xmagnifications

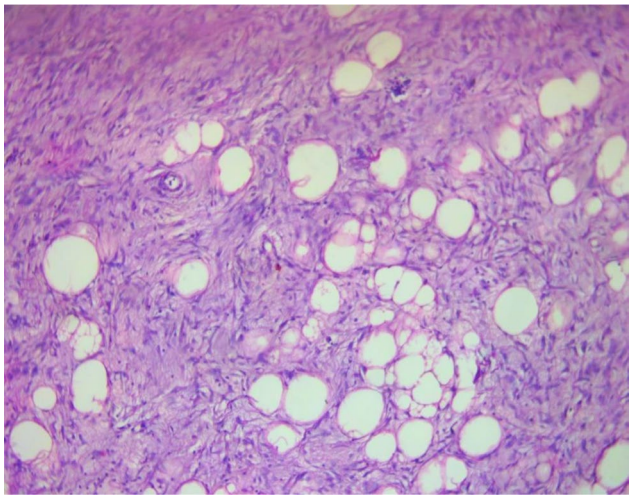

Fig. 7 Showing hyper cellular spindle to stellate cells infiltrating adipocytes under 20X magnifications

Discussion

Sarcoma of the spermatic cord is a very rare tumor accounting for less than 1% of sarcomas [1]. The most common age of presentation is predominantly between the 6th and 7th decades of life, and it rarely occurs before the age of 20 [1–3, 5, 8–10). Our patient presented at the age of 54 years. Low-grade myxoid fibrosarcoma presents mainly in the extremities, with a less common occurrence in the trunk and upper limbs; abdominal and retroperitoneal presentation is even less common and unheard of (1, 10–13).

To date, there are fewer than 30 cases of malignant myxofibrosarcoma of the spermatic cord, of which only 4 cases are low-grade variants [4, 9, 11, 14–16). These patients usually present with painless scrotal or inguinal swelling, which increases in size progressively, although some patients may experience some type of associated pain [1].

Myxofibrosarcoma is a notorious tumor with a high degree of recurrence and metastasis. Local recurrence in these groups of tumors may reach up to 50–60% regardless of the tumor grade, but metastasis is uncommon in low-grade tumors [1, 12, 13]. However, there are contradictory reports from Angervall L et al., with low-grade tumors (grades I and II) showing less recurrence than high-grade tumors (GRADE III and IV)[10]. A short interval of recurrence is associated with poor clinical outcomes[12]. However, up to 20–30% of intermediate- and high-grade varieties can metastasize, mainly to the lung

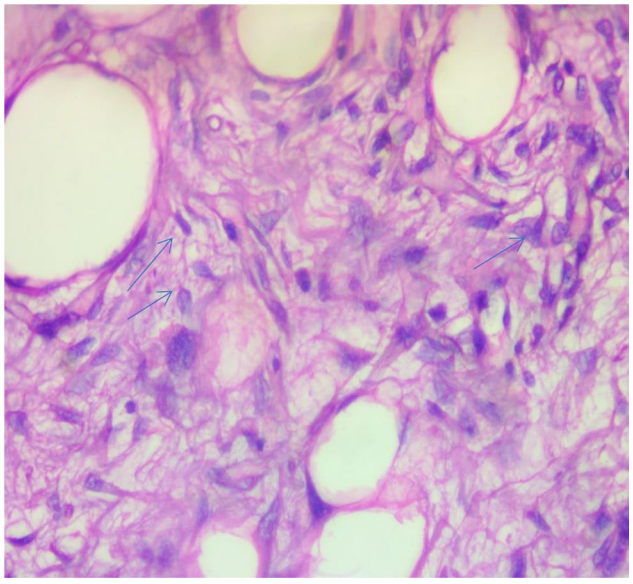

Fig. 8 Arrows showing psuedolipoblasts under 40x magnifications

and vertebrae [1, 12]. Metastasis was less likely when the tumor was small, superficially located, or had a prominent myxoid component [13]. Lymph node involvement, however, is very uncommon, and lymph node dissection is usually unnecessary [1].

The diagnosis is made via ultrasonography, which reveals a para-testicular solid mass with areas of hyperechogenicity, which is exactly what we have found in our patient. Imaging of the abdomen for retroperitoneal lymph nodes was normal. The final diagnosis is made on histopathological examination, which reveals proliferations of spindle cells with a collagenous and myxoid background admixed with tumor giant cells. IHC will differentiate it from similar mesenchymal tumor as it is positive for vimentin and negative for S-100 myogenin [2, 4].

Considering the relatively malignant nature of this mass and the possibility of local recurrence and distant metastasis, the main modality of treatment is radical surgery with negative soft tissue margins [1, 5, 9, 15). Those tumors with positive soft tissue margins have a high degree of recurrence and mortality, and additional treatment is warranted in this scenario [11]. In his case series of scrotal sarcoma, Unlü Y et al. reported that two of the patients with myxofibrosarcoma who had a positive margin died within 2 years after they refused adjuvant therapy [11]. In our case, we were able to achieve a negative gross margin of 9 cm, and the microscopic spermatic cord shave margin was also free. Considering the pathological stage, negative tumor margin and low-grade nature of the disease, adjuvant therapy was deferred, and strict follow-up due to the high risk of recurrence was selected for our patient.

Conclusion

Although it is a rare tumor, one should have a high index of suspicion for para-testicular sarcomas, especially when they arise in the age group where we do not expect testicular cancer. The main management strategy is good radical surgery with negative margins with or without adjuvant chemoradiation. These patients need to have a strict follow-up, as they have a greater chance of recurrence and metastasis.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12894-025-01794-8.

Supplementary Material 1

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Author contributions

C.A., Y.T. and M.M. were responsible for concept design. C.A., M.M., N.Y. were responsible for critical review of the manuscript. C.A. wrote the main manuscript text. N.Y. and Y.T. were responsible for acquisition and interpretation of data. All authors reviewed and approved the final manuscript text.

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Data availability

The summarized data, figures and medical records are included in this case report. Should the editors want the detail of the remaining data, it will be provided to them upon reasonable request to the corresponding author.

Declarations

Ethical approval and consent to participate

Our institution does not require ethical approval for the reporting of individual cases. So, ethical approval is not applicable in this case. Patient gave his full consent for publication and written informed consent was obtained from the patient for anonymized information to be published in this article.

Presentation at a meeting

None.

Competing interests

The authors declare no competing interests.

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