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CASE REPORT

Leiomyosarcoma of Spermatic Cord: A Rare Malignancy

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Abstract

Malignant smooth muscle tumors called leiomyosarcomas are extremely unusual in the genitourinary tract.This case report describes a 55-year-old man who was diagnosed with leiomyosarcoma of the spermaticcord. He initially presented with a 3-month history of dull, aching pain and a mass in his left hemiscrotum. Clinical examination revealed a hard, non-tender 4x4 cm mass in the scrotum, which was poorly separatedfrom the testis and adhered to the adjacent scrotal wall. The patient also reported excoriation and unhealthysecretions on the overlying skin for 15 days. Laboratory investigations and imaging studies were consistentwith a spermatic cord mass. The patient underwent a left-sided high orchidectomy with excision of thescrotal wall. The tumor was found to be T1bN0M0, stage 1A, and well differentiated. Following a successfulsurgical excision, the patient is doing well on regular follow-ups.

Keywords: Cancer survivorship, High orchidectomy, Soft tissue sarcoma, Paratesticular tumor, Leiomyosarcoma.

Introduction

Tumors within the scrotal sac can be classified as either testicular or paratesticular. Paratesticular tumors, which constitute 2% of all soft tissue sarcomas (STS), are rare.[1] In 1845, Lesauvage described the firstinstance of paratesticular sarcoma.[2] To date, a total of 217 case reports have been published regardinglocalized paratesticularleiomyosarcoma (LMS).[1]

Paratesticular tumors can arise from a variety of tissues, including the intratesticular seminiferous tubules,epididymis, spermatic cord, dartos layer, and scrotal skin. Approximately 30% of these tumors aremalignant, with sarcomas being the most common type (90%).[3] The peak incidence of these tumors is inthe sixth and seventh decades. The prognosis of these tumors can vary widely.[4,5]

Case Report

A 55-year-old male presented with complaints of heaviness and mild pain in his left scrotum for a durationof 3 months. Additionally, he reported noticing a hard mass in the left scrotum for 1 month. The patient alsoreported excoriation and unhealthy secretions on the overlying scrotal skin for 15 days. On examination, ahard, non-tender 4×4 cm mass was palpable. The mass was poorly separated from the testis and was found tobe adherent to the adjacent scrotal wall. Inguinal lymph nodes were nonpalpable. The primary clinicaldiagnosis was a left epididymal mass involving the scrotal wall. Laboratory investigations revealed normalresults for alpha-fetoprotein (AFP), beta HCG, and lactate dehydrogenase (LDH).

In this case, the ultrasonography revealed a 5×4 cm hypoechoic mass in the left spermatic cord withheterogeneous scattered calcification, poorly separated from the testis and attached to the scrotalwall. On MRI, the size was reported as 5×5 cm in diameter.

Increased vascularity was demonstrated in this para-testicular mass with Doppler imaging. Chest, abdominal, and pelvic CT staging revealed no evidence of local or distant metastases. A left-sided high orchidectomy along with an excision of the affected scrotal wall was performed on the patient. Retroperitoneal lymph node dissection (RPLND) was not performed due to a lack of evidence of metastasis

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and no routine recommendation of RPLND, as it yields no survival benefits.[6] The American Joint Committee on Cancer (AJCC) staging system was used for staging this soft tissue sarcoma, which revealed the tumor grade [T1bN0M0 G1 (well differentiated)] and stage [Stage 1A].[7]

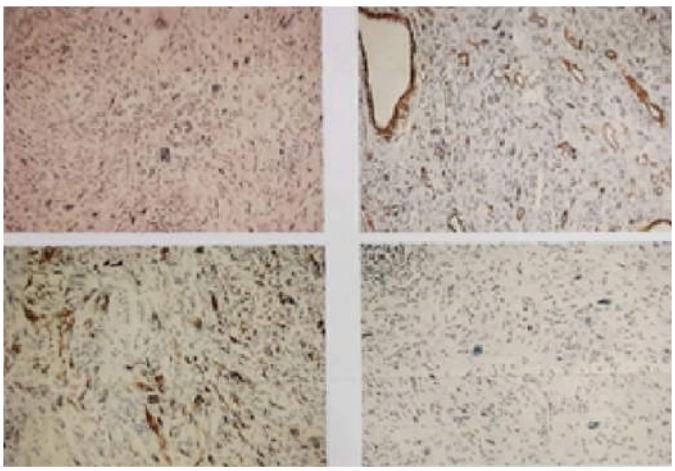

Figure-1: Histological image of the mass, immunohistochemistry-desmin positive (leiomyosarcoma)

Light microscopic examination reported soft tissue lesion irregularly deposited round to spindle cells, bedded in the fibrillary background, scattered large cells with large fascicular nuclei, and eosinophilic nuclei, which are compatible with myo-fibroblastic cells(Figure-1). On immunohistochemistry staining, tumor cells were positive for desmin (Figure 1), which suggests leiomyosarcoma. Histopathologically, the resection margin was negative.

The course of recovery in this case was uneventful. As per the guideline for Stage 1A, this patient was consulted about the advantages and disadvantages of adjuvant radiotherapy, but he declined.[8,9] After three-monthly follow-ups for the first year, no local recurrence or distant metastases have been detected.

Discussion

The majority of paratesticular sarcomas arise from the spermatic cord.[10] Ultrasonography is theinvestigation of choice for distinguishing the intra or extratesticular origin of the mass.[11] Practically, preoperative differentiation between benign and malignant paratesticular tumors is difficult, even byultrasonography.[2,12] Histology, including immunohistochemistry for smooth muscle distinction, providesthe gold standard for diagnosis.[13] Imaging techniques such as computed tomography (CT) and magneticresonance imaging (MRI) help assess the extent of the disease.[14] Paratesticular LMS does not yet have a well-defined treatment protocol. Most often, a high inguinalorchidectomy is the best course of action, with wide excision of the involved scrotal skin, if needed, toachieve a negative surgical margin.[6,15] Notably, if the surgery can guarantee a negative surgical margin, thentestis-sparing surgery may be considered.[1] Paratesticular LMS has a varied prognosis. The disease-specific survival rates for 5 and 10 years are 77% and66% respectively.[16] The location, size, and grade of primary tumors, as well as nodal or distant metastases,are the primary criteria that determine the prognosis of sarcomas.[14] Recurrences have been observedmany years after treatment due to local and hematogenous spread, and therefore, long-term follow-up isrequired after surgery in these patients.[6,9,17] Adjuvant radiotherapy has been shown to reduce these ratesof recurrence.[18] Radiation to the pelvic and groin nodes, as well as the hemiscrotum, has been advisedand is regarded as necessary for all intermediate- and high-grade malignancies.[8,9,19]

Conclusion

Paratesticularleiomyosarcoma is a rare condition. To date, there is no clear protocol for its diagnosis and treatment. Appropriate clinical examination, imaging, histology, and immunohistochemistry are essential for diagnosis and subsequent therapeutic decision-making. The treatment considered in this scenario is the gold standard. For the purpose of improving care for such patients, the treatment protocol must be upgradedbased on the outcomes of a larger number of cases.

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