High grade leiomyosarcoma of the testes

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Abstract

Testicular leiomyosarcoma is a rare tumor. It may arise secondarily following exposure to radiotherapy, chronic inflammation, or usage of high dose anabolic steroids. However, in absence of risk factors, it is rarely seen. Only 15 cases of Primary Intra testicular leiomyosarcoma have been reported in world literature. We present a case of testicular tumor in an elderly male. Preoperative work up showed raised Lactate Dehydrogenase (LDH) levels. He underwent high orchiectomy. Histopathology and immunohistochemistry confirmed it to be a primary intra testicular leiomyosarcoma. A brief case report with review of literature is presented.

Discussion

Leiomyosarcoma are malignant soft tissue tumors arising from the undifferentiated smooth muscle cells of mesenchymal origin. They can arise from any tissue in the body containing smooth muscle. Scrotal leiomyosarcoma can be classified into paratesticular and intra testicular. Paratesticular leiomyosarcoma are relatively common with about 100 cases being reported. 80% of para testicular leiomyosarcoma arise from the spermatic cord and 20 from epididymis. Intra testicular leiomyosarcoma are very rare and only 15 cases have been reported till date in world literature. Intra testicular leiomyosarcoma is believed to arise from the smooth muscle elements of the testicular parenchyma like the blood vessels or the contractile cells of the seminiferous tubules. There has been a case report in which, occurrence of the sarcoma and a germ cell tumor is associated with adverse prognosis. Intra testicular leiomyosarcoma are usually seen in patients who are older than 40 years. One case has been reported in an infant. Patients with past history of radiation exposure, chronic inflammation, and use of high dose anabolic steroids are considered to be at risk for leiomyosarcoma of the testes. Our patient had no such risk factors. The majority of the patients presented with painless enlargement of the testes or discomfort in the inguinoscrotal region. The tumors may spread via local invasion, lymphatic dissemination or haematogenous metastasis. In all reported cases of intra testicular leiomyosarcoma, a radical orchiectomy was performed (Table 1). Thirteen patients had stage I disease. One patient received chemotherapy, one received chemotheraphy and radiotherapy, as the tumor was high grade. This patient presented with a recurrence after 16 months for which the patient received salvage treatment.

Case Report

A 60-year-old male presented with painless swelling in the right testes for 2 months. He had no other symptoms. There was no history of radiation exposure or intake of anabolic steroid. Physical examination revealed a hard mass measuring 10x8x6 cm in the right testes. Haematological investigations were normal. Ultrasonography of the scrotum revealed a 10x8x6 cm mass in the right testes with hypo echoic solid and cystic areas. Computed tomography (CT) of the chest, abdomen and pelvis showed a swelling measuring 10x8x6 cm arising from the right testes (Figure 1). There was no evidence of para-aortic lymphadenopathy. Tumor markers Serum B Human chorionic gonadotropin (B HCG) and alpha feto protein (AFP) were within normal limits. Serum lactate dehydrogenase (LDH) was raised (680 U/L, normal100-190 U/L). Patient underwent high ligation of the cord with right orchiectomy. Histopathology was suggestive of high-grade intra testicular leiomyosarcoma. Immunohistochemistry was positive for calponin, Epithelial Membrane Antigen (EMA) Smooth muscle actin and vimentin (Figure 2). Patient received postoperative radiotherapy and is asymptomatic after 1 year of follow up.

Figure 1. Computed tomography of the abdomen and pelvis showing mass arising from the right testes measuring 10x8x6 cm. Left panel: Coronal section; Right panel: Transverse section.
Chemotherapy. Patients with stage II disease and stage III disease received adjuvant chemotherapy.

Our patient had stage I high grade disease and received adjuvant radiotherapy, to prevent distant and local metastasis after radical orchidectomy.

## Conclusions

Immunohistochemistry gives a definitive diagnosis in cases of testicular swelling. Hence immunohistochemistry should be performed in all cases of scrotal tumors to differentiate between paratesticular and testicular tumors. Serum Lactate dehydrogenase (LDH) can be used as one of the tumor markers for these tumors. However, further study is required to confirm this fact.

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