

# Paratesticular Neoplasm - A Case Report

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**Abstract:** *Leiomyomas are benign tumours that arise from smooth muscle cells, from almost anywhere in the body. But, leiomyomas of the urinary tract and male genital tract are extremely rare. Tumours occurring in the paratesticular region may be clinically indistinguishable from testicular tumours, thus resulting in initial misdiagnosis. Most tumours of this region present as a scrotal swelling which may or may not be painful. Here is a case report of 76 year old male who presented with a painless scrotal swelling for one year. Ultrasonography of the testis showed features suggestive of testicular neoplasm with increased vascularity. High orchidectomy was performed. On histopathology, the diagnosis of paratesticular tumour was given. Van Gieson's stain and Masson's Trichrome stain showed smooth muscle differentiation. On immunohistochemistry the tumour was positive for Smooth muscle actin and Vimentin. This case report highlights the fact that both the pathologist and the clinician should be aware of this rare entity.*

**Keywords:** Paratesticular tumour, painless scrotal swelling

## 1. Introduction

Leiomyomas are benign tumors that arise from smooth muscle cells, from almost anywhere in the body. Leiomyomas are commonly seen in uterus, cervix, stomach and oesophagus. But, leiomyomas of the urinary tract and male genital tract are extremely rare. In the urinary tract, they may arise from the renal pelvis, bladder, spermatic cord, epididymis, prostate, glans penis or the scrotum. Tumors occurring in the paratesticular region may be clinically indistinguishable from testicular tumors, resulting in initial misdiagnosis. Most tumors of this region present as a scrotal swelling which may or may not be painful.

## 2. Case Report

A 76 year old man presented with an asymptomatic left scrotal mass of one year duration. He had sought treatment only recently as the mass felt firmer. He did not report pain or any urinary symptoms such as hematuria or dysuria. There were no constitutional symptoms such as night sweats and loss of appetite or weight. He had no past surgical history or medical history of note.

Clinical examination revealed a firm nodule measuring 12 x 10 cm in the region of left hemiscrotum. The skin over the scrotum showed loss of rugosity. On palpation the swelling was irregular, non tender and there was no local rise of temperature. The consistency of the swelling was firm to hard with smooth surface and clear margins. The swelling was not reducible and no impulse on coughing. Testicular sensations were reduced. The cord appeared symmetrical on both sides and no thickening was noted. No lymph nodes were palpable. Clinically a diagnosis of testicular neoplasm was made. Ultrasonography of the testis revealed enlarged left testis and a soft tissue lesion measuring 7.2 x 4.5 cm. Colour Doppler showed increased vascularity. Right testis and epididymis were normal. Ultrasonography report suggested features suggestive of left testicular neoplasm. Based on the above findings high orchidectomy was performed and sent for histopathological examination.

Grossly the specimen consisted of a single grey white mass measuring 10 x 7 x 4.5 cm, cord measuring 1.5 cm in length. External surface was nodular and congested [Fig 1]. Cut surface showed solid grey white lobulated areas. Normal appearing testis was attached to one end measuring 3cm in diameter, string test was positive [Fig 2].



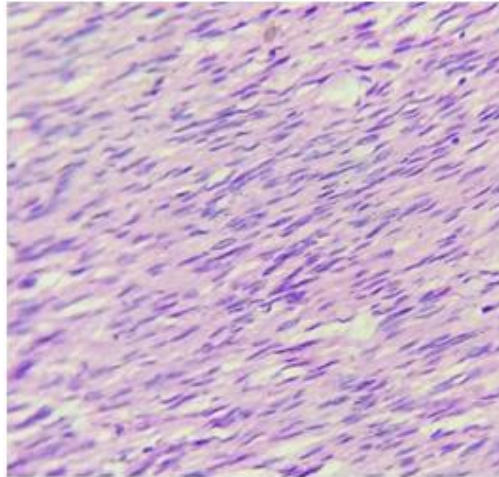
**Figure 1:** Gross specimen showing a single nodular grey white mass along with cord



**Figure 2:** Cut surface showed solid grey-white lobulated areas. Normal appearing testis seen at one end.

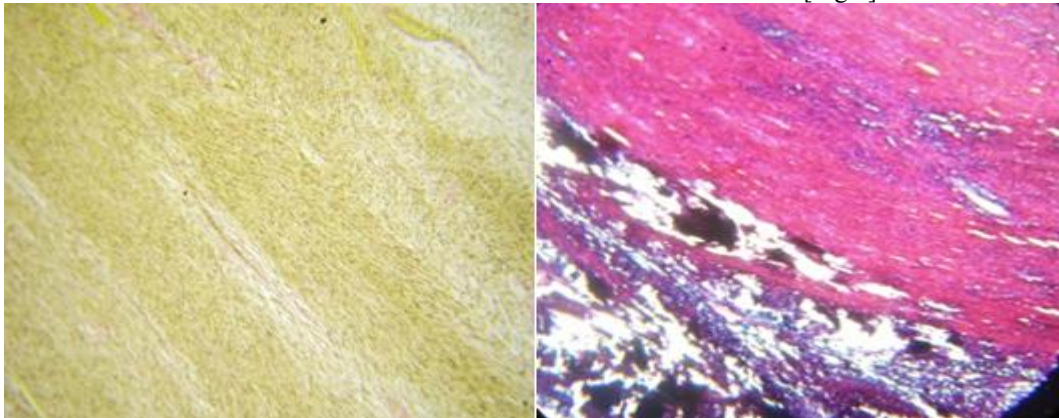
icroscopy of the paratesticular mass revealed a well delineated tumor comprising of benign spindle cells in

fascicles and whorls. Spindle cells showed spindled nuclei with blunt ends and uniform chromatin[Fig 3].



**Figure 3:** Microscopy of the mass showed a well delineated tumor comprising of benign spindle cells in fascicles and whorls

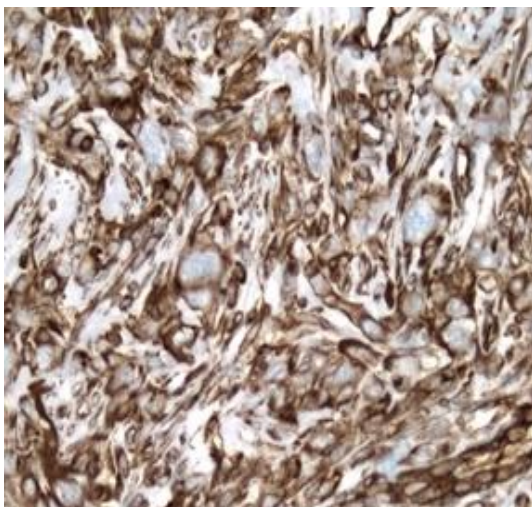
Van Gieson's stain and Masson's Trichrome stain showed smooth muscle differentiation[Fig 4].



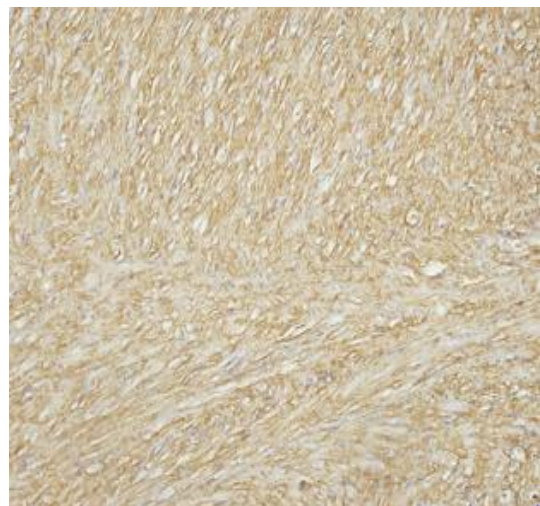
**Figure 4:** Showing smooth muscle differentiation in Van Gieson's stain and Masson's Trichrome stain

Immunohistochemical studies showed that the smooth muscle cells were diffusely positive for Vimentin and Smooth Muscle Actin(SMA)<sup>[16]</sup>. The final diagnosis of paratesticular tumor was made.

#### Immunohistochemistry



**Figure 6:** Showing Vimentin positivity



**Figure 7:** Showing Smooth Muscle Actin(SMA) positivity

### 3. Discussion

Extra-testicular leiomyoma is a rare tumor occurring in the male genital tract. It is found most commonly in white males between the fourth and sixth decade of life with most presenting during the fifth decade<sup>[1,2]</sup>.



Scrotal masses can be divided into intratesticular and extratesticular tumors. This differentiation is especially because of the high rate of malignancy in solid testicular lesions, around 90-95%<sup>[3,4,5]</sup>. The use of ultrasonography is extremely important to distinguish the two entities. It can differentiate intra and extratesticular tumors in 95-100% of the cases and avoid radical surgery. However, most of the patients undergo orchidectomy before a final diagnosis has been given.

Macroscopically, leiomyomas are grey-white masses with rubbery consistency. The cut surface shows whorled areas. Microscopically they are characterised by intersecting smooth muscle bundles, which tend to be more prominent around vessels and ducts. They may show myxoid characteristics and calcifications<sup>[6]</sup>. Necrosis, nuclear atypia and mitotic activity are usual<sup>[7]</sup>. In 1996, Hertzberg et al.<sup>[8]</sup>, reported another feature of leiomyoma showing multiple narrow areas of shadowing not cast by calcifications, but corresponding to transition zones between the various tissue components of the mass and they suggested that it may help differentiate leiomyomas from other scrotal masses.

The histogenesis concerning leiomyoma of the testis is not clear. Some authors support the theory of smooth muscle differentiation from myocytes in the wall of seminiferous tubules<sup>[9,10]</sup> while others proposed that they can arise from myoid cells or potentially their progenitors present in the vascular smooth muscle<sup>[11]</sup>. Differentiation from totipotent cells has also been proposed<sup>[14]</sup>.

The final diagnosis of the leiomyoma was made on its histopathologic examination based on a cellular proliferation of bland spindle cells having a typical morphology with cigar shaped nuclei and eosinophilic cytoplasm. In spite of benign nature of this entity the treatment of choice remains orchidectomy, as clinically it cannot be distinguished from malignancy. Ultrasonography may sometimes be useful.

#### 4. Conclusion

Diagnosing leiomyomas preoperatively on ultrasonography still remains a challenge. This case report highlights the fact that both pathologists and clinicians should be aware of this rare entity. A testicular biopsy can aid in differentiating between benign and malignant tumor and thereby plan accordingly the type of surgery to be undertaken. This should be distinguished from malignant tumors of testis to avoid an overdiagnosis leading to radical surgeries, thus helping in preservation of testis.

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