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Leiomyoma of Tunica Albuginea

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ABSTRACT

Leiomyoma of the tunica albuginea is an extremely rare benign tumor of the genitourinary tract. A thorough and proper examination and investigation are necessary for proper management and testis salvage surgery should be considered if feasible in such cases.

We present a fifty-six-year-old male who had benign smooth muscle tumor (leiomyoma) arising from tunica albuginea which was successfully treated with testis sparing excision of the tumor. This is the first case of leiomyoma of tunica albuginea which has been reported in the Kingdom of Bahrain.

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INTRODUCTION

Leiomyomas are benign tumors which arise from smooth muscle cells and are often found as benign lesions arising in the uterus[1,2]. Leiomyomas are rarely found in the genitourinary tract outside the uterus; the renal capsule is the site of the majority of these tumors. Leiomyomas have been reported in the epididymis, spermatic cord, testis, tunica albuginea, bladder, prostate, scrotum and the glans penis[3-5]. Leiomyoma of the tunica albuginea is extremely rare.

The aim of this report is to present a case of a leiomyoma of the tunica albuginea treated successfully with testis sparing excision of the tumor.

THE CASE

A fifty-six-year-old Bahraini male presented with a painless left hemi-scrotal swelling for more than a year; it was gradually increasing in size with occasional pain in left groin. The patient denied any history of genital trauma or infection.

On physical examination, swelling of his left scrotum was found; the testis could not be palpated because of tense hydrocele. The right testis, epididymis and spermatic cord were unremarkable. The patient's routine blood biochemistry and hematological workup were within normal limits.

The scrotal ultrasound was suggestive of left-sided hydrocele with chronic inflammatory changes with normal testis. The right-sided testis, epididymis and hemiscrotum were normal.

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The patient underwent elective hydrocele surgery. During exploration, it was found to have infective hydrocele with thickened tunica vaginalis with an extra testicular mass about 6x6x5 cm, arising from the lower part of the tunica albuginea and extending to the lower part of the epididymis; however, it was not involving the epididymis, see figure 1.

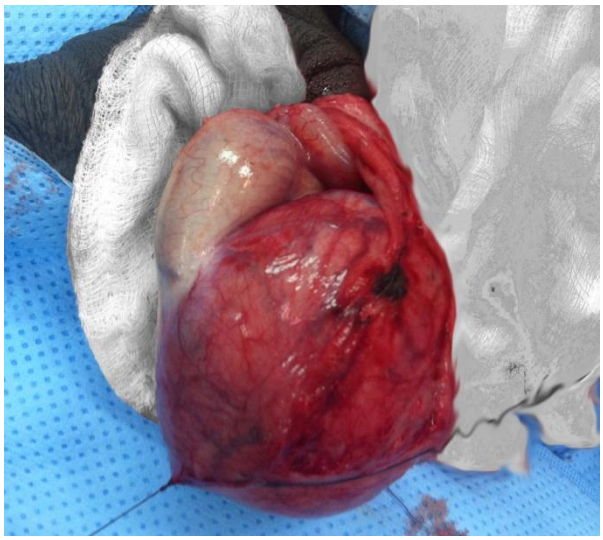

Figure 1: Extra-testicular Mass Arising from the Tunica Albuginea

Intraoperative frozen section biopsy showed whorling bundles of smooth muscle cells of benign features.

As there was a cleavage line between the tumor and the testis, a decision was made to do testis sparing excision of the tumor. The tumor was completely excised sparing the testis and the epididymis, see figures 2 and 3. Postoperatively the patient recovered well. Follow-up tumor markers and the scrotal ultrasound were unremarkable.

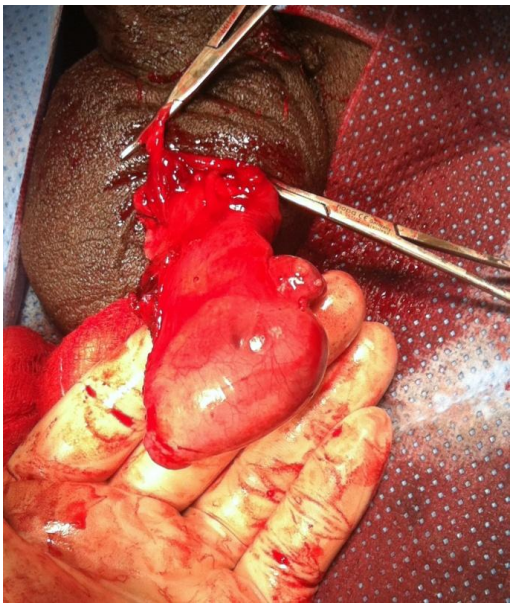

Figure 2: Left Testis after Excision of the Tumor

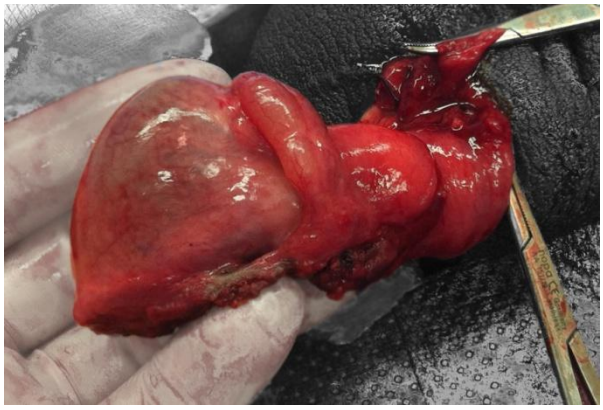

Figure 3: Left Testis and Epididymis after Excision of the Tumor

Final pathology revealed a well-circumscribed grey white mass measuring 6x6x5 cm and weighing 150 grams with whitish whorled appearance, see figures 4 and 5. Microscopically, the tumor was composed of interlacing and whorling bundles of smooth muscle cells. The tumor cells were spindled containing centrally located nucleolus and showing no mitotic activity or nuclear atypia, see figures 6 and 7. The mass was diagnosed as a leiomyoma.

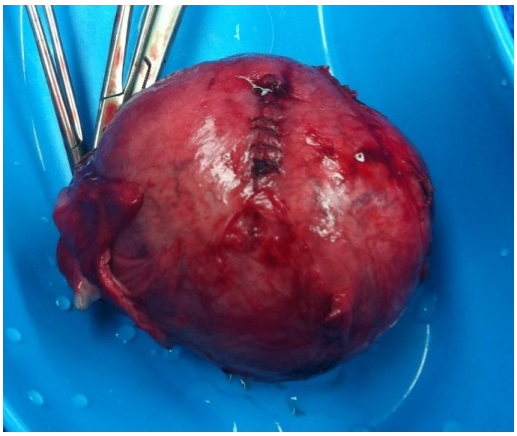

Figure 4: Gross Appearance - Extratesticular mass 6x6x5 cm

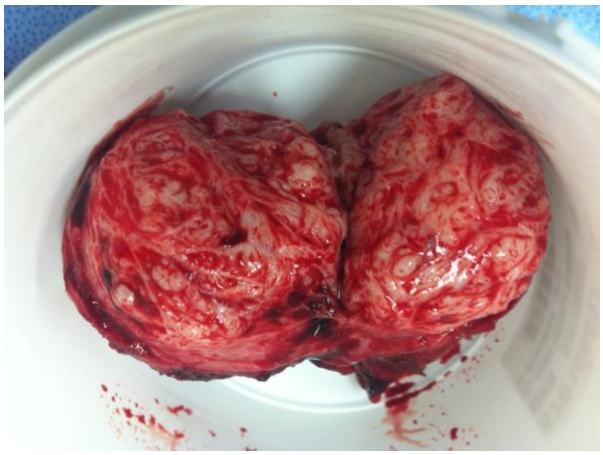

Figure 5: Cut Section of the Tumor Showing Whitish Whorling Smooth Muscle, No Necrosis or Cystic Changes

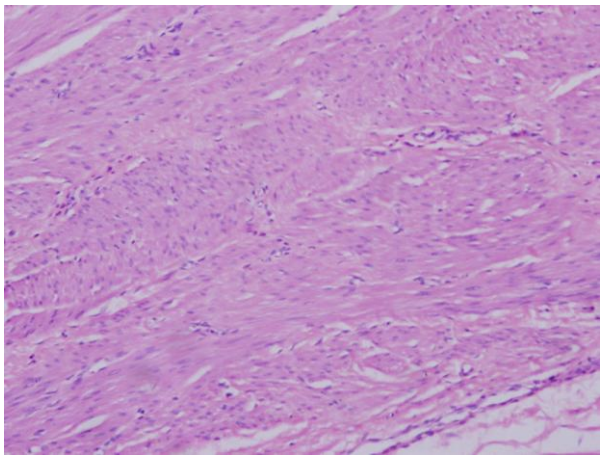

Figure 6: Microscopic Appearance – High Power Showing Fascicles of Benign Smooth Muscle, No Atypia

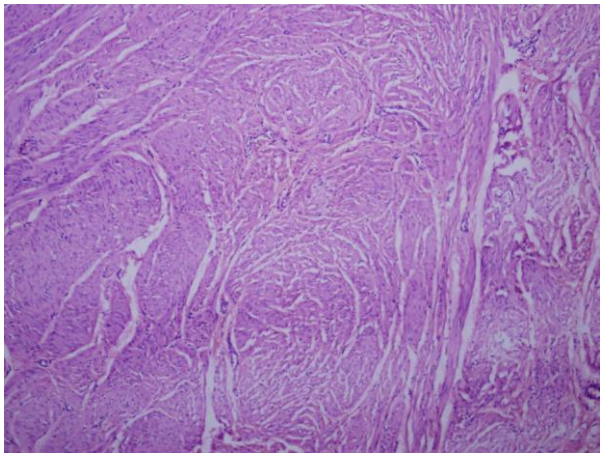

Figure 7: Microscopic Appearance – Low Power

DISCUSSION

Leiomyomas are benign tumors derived embryologically from mesenchymal cells. Although rare in the genitourinary tract, leiomyomas can originate from any structure containing smooth muscle, most commonly the renal capsule. Leiomyoma of the tunica albuginea is extremely rare[1-5].

Leiomyoma of the tunica albuginea is considered to be of benign behavior. It shows no invasive growth or metastasis[6]. Inflammatory hydrocele, multiloculated hematocele and a Sertoli cell tumor of the testis are potential differential diagnosis by sonography[7,8]. Tumors arising from the testicular tunics are rare and most cases are fibromas. The etiology of leiomyomas of the tunica albuginea is controversial. Leiomyomas could arise from the smooth muscle of blood vessels or totipotent teratoma[9]. Inflammatory myofibroblastic tumor (IMT) of the spermatic cord is a possible differential diagnosis[10].

Scrotal mass must be properly evaluated and investigated to rule out the possibility of malignancy. Extratesticular masses are commonly benign and usually secondary to trauma, infection and inflammation or benign neoplasms; ultrasonographic study is needed to confirm the diagnosis. In our case, the extratesticular mass was missed by the physical examination and sonography due to the presence of large hydrocele.

Leiomyoma of the tunica albuginea is an extremely rare condition, only a few cases of this tumor have been reported[11]. It is advisable to do intraoperative histopathological examination of paratesticular tumors despite that three-quarters are non-malignant; the treatment of choice in non-malignant mass is simple extirpation. An Orchiectomy is not necessary; usually, a testis and epididymis sparing surgery can be achieved.

CONCLUSION

Leiomyoma of the tunica albuginea is an extremely rare condition. An Orchiectomy is not necessary in such case and usually testis and epididymis salvage operation can be achieved and should be considered as treatment of choice as in our reported case.

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