Malignant Mesothelioma of Tunica Vaginalis

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INTRODUCTION

Testicular mesothelioma develops in the membranous lining that surrounds the testicle, the tunica vaginalis. Testicular mesothelioma comprises about 1% - 5% of all malignant mesotheliomas⁴. Previous exposure to asbestos, trauma and hydrocele are also risk factors for the development of malignant mesothelioma⁵. The non specific symptoms, broad age distribution and lack of tumor markers make their preoperative diagnosis difficult. Radical surgery plus adjuvant radiotherapy is observed to provide the best results⁶.

We present a testicular mesothelioma of unknown etiology which is treated with radical surgery.

CASE REPORT

A 70 year old man presented with hydrocele of 3 years duration. The past history was insignificant. The patient denied any history of trauma or infection to the scrotum. The patient also denied any exposure to asbestos in the past. Complete blood count, renal and liver functions are within normal limits. The patient has undergone left orchiectomy and the specimen sent for histopathological examination.

Gross examination revealed thickened vaginal sac with gray white to gray brown nodules studding the surface of tunica vaginalis. The diameter of nodules varied from 0.5 - 2.5 cms. The testis was normal.

Microscopic examination revealed classical malignant mesothelioma of biphasic type. The diagnosis of testicular malignant mesothelioma can be difficult, both from clinical and pathological point of views. Awareness and proper recognition of this entity are essential to reach the correct diagnosis. Radical orchiectomy should be the primary therapy. In some cases adjuvant chemotherapy or radiotherapy is given.

Keywords: Malignant mesothelioma, tunica vaginalis, hydrocele, Calretinin
with malignant mesothelioma.

**DISCUSSION**

Diagnosis of mesothelioma especially tunica vaginalis is a difficult task. Rarity of the lesion makes it more challenging. It was first described by Barbera and Rubino in 1957\[4\]. Since then, only about 100 cases have been reported in the literature\[3\]. The age at presentation ranges from 6-91 years with most occurring between ages 55-75 years\[5,6\]. Our case also presented at 70 years of age.

Although trauma, herniorrhaphy and longterm hydrocele have been considered as predisposing factors for the development of malignant mesothelioma, the only well established risk factor is asbestos exposure\[2,7\]. The incidence of asbestos exposure in patients with tunica vaginalis malignant mesothelioma have been cited as 23-41%\[3\].

Patients usually present with hydrocele and/or palpable mass in scrotum. Our patient also presented with hydrocele.

The common appearance of the gross specimen is thickening of the tunica vaginalis with multiple friable nodules or excrescences. The fluid of the hydrocele is described as clear or haemorrhagic\[5\].

Microscopically about 75% of these will be purely epithelial in type while the others are biphasic with varying amounts of the sarcomatoid morphology.

Immunohistochemically the tumor is usually positive for Calretinin, WT-1, EMA, D 2-40, Thrombomodulin, CK7, CK5/6 and negative for CK20, CEA\[8\]. Electron
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Microscopic studies reveal epithelial cells joined by tight junctions forming lumina and displaying microvilli with length to width ratios often greater than 10.

The most important differential diagnostic considerations include florid mesothelial hyperplasia, adenomatoid tumor, carcinoma of rete testis and serous papillary tumor. Morphologically, nuclear atypia, mitotic activity, necrosis, invasion of tumor and immunohistochemistry differentiate these lesions from malignant mesothelioma.

Malignant mesothelioma of tunica vaginalis is a highly aggressive neoplasm. Despite relatively bland cytologic features in many of these tumors, they have well documented metastatic potential. A review showed a median survival of 23 months for mesotheliomas of tunica vaginalis. Recurrence occurred in 14-31% of the cases[6]. Radical inguinal orchectomy is the treatment of choice in the patients with localized disease. In some cases of disseminated mesothelioma adjuvant radiotherapy is also given[6]. As our case is a localized disease only radical orchectomy was done.

CONCLUSION

The diagnosis of testicular malignant mesothelioma can be difficult, both from clinical and pathological point of views. Awareness and proper recognition of this entity are essential to reach the correct and prompt diagnosis. It should be considered whenever a paratesticular mass lesion is observed even without a history of trauma or asbestos exposure.

Radical orchietomy should be the primary therapy. Moreover, in some cases adjuvant chemotherapy or radiotherapy is given.

CONFLICT OF INTEREST
The authors declared no conflict of interest.

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REFERENCES