Abstract:
Paratesticular mesotheliomas are rare tumours. The sole plausible causative factor so far ascertained in the pathogenesis of these tumors is asbestos, which however is found in only around 30 to 40 of such cases. The age range of affected individuals is wide, mostly adults and the elderly, but also includes young people and children. Malignant mesothelioma is an uncommon tumour arising in body cavities lined by mesothelium. The majority of these tumours are found in the pleura, peritoneum and less frequently pericardium. As the tunica vaginalis is a layer of reflected peritoneum, mesothelioma can occur in the scrotal sac. The nonspecific symptoms, broad age distribution and lack of tumour markers make pre-operative diagnosis of malignant mesothelioma of the tunica vaginalis difficult and indeed most of the reported cases were diagnosed at histology.

Keyword: Malignant mesothelioma, tunica vaginalis, asbestos exposure, therapy, prognosis.

Case Report:
An 18 year old male was admitted to surgical department Coimbatore Medical College Hospital in 2009 with complaints of acute lower abdominal pain, acute scrotal pain with scrotal swelling with no other specific complaints. There was no history of fever or trauma preceding the onset of scrotal pain or swelling. Physical examination of the abdomen revealed tenderness in the left iliac fossa. On examining the scrotum, there was a swelling arising from the left testis which was warm and tender. Cord structures appeared to be thickened. Ultrasound of the abdomen was normal. Doppler ultrasound of the scrotum revealed left testicular torsion with loss of vascularity to left testis.

It was decided to proceed with an emergency scrotal exploration on the basis of the ultrasound scrotum report. On exploration, we found a mass arising from the left testis then our incision was extended and high Left orchidectomy was done. Histopathology of the excised left testis revealed a paratesticular malignant
mesothelioma arising from the tunica vaginalis of the left testis with underlying epididymo-orchitis. Immunohistochemical analysis showed intense expression of cytokeratins, vimentin and calretinin.

Cross Section of the tumor

Histopathology
Post operatively patient were thorough evaluated under repeat USG abdomen, CXR, and there was no metastatic deposits. And started cisplatin and gemcitabin based chemotherapy. Patient was regularly followed. Then he started complaining of severe headache and bony pains. Suspected metastasis and advised MRI of brain and skeletal system found to be multiple secondaries brain, humerus and femur. Radiotherapy was given for brain mets. Inspite of aggressive treatment, patient could not survived beyond 7 months after the diagnosis of the disease.

MRI Scan Showing Cerebral Metastasis

Discussion
Malignant mesothelioma of the tunica vaginalis is a rare primary tumour that occurs in a broad age range, with the highest incidence between 55 years and 75 years [1]. Although trauma, herniorrhaphy and long term hydrocele [2] have been considered as the predisposing factors for development of malignant mesothelioma, the only well established risk factor is asbestos exposure [1, 3]. The ultrasound features of mesothelioma of the tunica vaginalis testis have not been widely reported. Hydrocele, either simple or complex is present and may be associated with: (1) well organized soft tissue fronds of mixed echogenicity (a hypoechoic centre surrounded by a hyperechoic rim) which extends into the hydrocele [4]; (2) multiple extratesticular nodular masses of increased echogenicity arising from the scrotal wall [5]; and (3) focal thickening of the tunica vaginalis testis with presence of nodularity [6]. The present case was reported with a features of testicular tortion and after opening it was paratesticular growth. Patients with malignant mesothelioma of the tunica vaginalis frequently have a progressively enlarging huge hydrocele suggestion of malignancy [7]. However fluid cytological analysis is frequently negative. Bruno et al [6] suggested direct ultrasound guided fine needle aspiration of the solid masses rather than fluid from the hydrocele, However this is still subject to sampling error.
Unlike the more common adenomatoid tumour, which is usually well-defined and round in shape, the present case demonstrated as a paratesticular mass. Surgery was therefore performed, due to the uncertainty of the diagnosis. The major difficulty in managing patients with malignant mesothelioma of the tunica vaginalis testis was determining an accurate preoperative diagnosis, which was reported in only two cases. Due to the lack of characteristic symptoms, 97.3% of the cases were diagnosed intraoperatively. Of patients who underwent local resection of the hydrocele wall, 35.7% experienced local tumor recurrence, as compared with 10.5% after scrotal orchiectomy and 11.5% after inguinal orchiectomy. Therefore, radical orchiectomy should be the first-line therapy. The median survival of these patients were 23 months, which decreased to 14 months in cases of recurrence. The overall recurrence rate (local and disseminated) was 52.5%. More than 60% of recurrences developed within the first 2 years of the follow-up. In some cases of disseminated mesothelioma, adjuvant chemotherapy or radiotherapy was given. Although reports on adjuvant treatments were limited, radiotherapy appeared to be more effective than chemotherapy. However, 37.9% died of disease progression. Assessment of prognostic parameters revealed a significant correlation of patient's age with survival ($P < 0.01$), with a better outcome for younger patients and a worse disease course for patients with primary disseminated disease ($P < 0.05$) in univariate analysis. A multivariate Cox regression model of prognostic parameters concerning survival did not yield statistically significant results.

**Conclusion**

In conclusion, malignant mesothelioma of the tunica vaginalis is a rare neoplasm, whenever a paratesticular mass is seen in the epididymis, the possibility of mesothelioma should be included in the differential diagnosis even when there is no history of asbestos exposure such as in the present case. As these tumours may mimic adenomatoid tumours, fine needle aspiration of the tumour may be contributory in making a pre-operative diagnosis in these patients. This is important as it affects the surgical approach and the patient’s prognosis.

**REFERENCES** :


