International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Paratesticular Inflammatory Myofibroblatic Tumour: Rare Case Report

Dr. Prem Kalagi[1], Dr. Purushotham Reddy[2], Dr. M R Dodamani[3]

[1]Fellow in Tumour Pathology, HCG Cancer Hospital Bangalore

[2]Professor, Department of Pathology KIMS Hubli

[3]Consultant Surgeon Secure Hospital, Hubli

Abstract: ***Paratesticular tumors are rare and comprise of 7 - 10% intrascrotal tumors. Inflammatory myofibrobalstic tumour (IMT) mainly reported in thoracic cavity and also in extrapulmonary sites. We reported a 57 year old male patient presented with scrotal mass and pain with 10 - month duration. Ultrasonography revealed well defined heteroechoic mass in left scrotal region with internal vascularity noted and few enlarged left inguinal lymph nodes noted. Histology showed features of benign spindle cell tumour. On immunohistochemistry the tumor cells were positive for vimentin and anaplastic lymphoma kinase (ALK). To our knowledge, no recurrence has been reported after complete excision of paratesticular IMT; however, continued follow - up is recommended.***

Keywords: Inflammatory myeofibroblatic tumour, vimentin, paratestis

1. Introduction

Paratesticular tumors are intrascrotal tumors that arise from the epididymis and the spermatic cord and its coverings.[1] Paratesticular tumors comprise of 7 - 10% intrascrotal tumors of which 70% are benign and 30% are malignant.[2] Among the paratesticular tumors, the Inflammatory myofibroblastic tumor (IMT) is one of pseudosarcomatous inflammatory lesion originating from soft tissue or viscera, initially reported in thoracic cavity, and also documented in a variety of extrapulmonary sites, ranging from brain to bladder.3 Paratesticular IMTs have been rarely reported in the literature and therefore we present a 57 years old patient who presented with paratesticular IMT and review of literature.

2. Case Report

A fifty - seven - year - old male patient without any comorbidities, was presented with left side scrotal pain and a lump of 10 months duration. There was no history of trauma, fever, symptoms of infection, weight loss or anorexia. On physical examination a 4 * 5cm non - tender, firm mass was palpated at the posterior of left testis. An inguinal hernia was detected with enlarged left inguinal lymph nodes. Ultrasonography revealed a well defined heteroechoic mass in left scrotal region measuring 4x 3x 5cm with internal vascularity noted and left testis not visualized separately from the lesion. Widening of deep inguinal ring with herniation of omentum noted and few enlarged left inguinal lymph nodes noted. Abdominal imaging was normal. AFP, HCG negative and LDH levels were normal. Patient was treated with left orchidectomy with inguinal lymph node dissection with herniorrhaphy under spinal anaesthesia. Pathological gross appearance of the specimen consists of large tan white nodular mass 24*23*18cms (fig1a) with small portion of skin (m) 4*6cms. Focal areas are covered with fat tissue. Cross section (c/s) shows testis (m) 3*3*2.5cms with firm whitish tumor in relation to spermatic cord and tunica albugenia. Tumour is arranged in nodules of varying sizes. Focal areas show entrapment of fat tissues. Also seen a lymph node (m) 4*3*2 cms with c/s gray brown areas. Two other tan white masses (m) 9*6*4 cms and 5*4*2cms. C/s of both show firm whitish areas. Microscopic evaluation showed spindle cell tumor in attachment of spermatic cord and tunica albugenia. Tumor cells are arranged in short fascicles in a hyalinised stroma (fig1b). There is mild nuclear pleomorphism. There are aggregates of lymphocytes and plasma cells seen. Section from two other nodular show similar spindle cells tumor. Section shows one lymph node with features of reactive lymphadenitis. Immunohistochemistry was positive for vimentin (fig1c) and ALK (fig1d) and negative for CD117, SMA, Ig G4. Patient was followed without any further treatment.

Figure 1 (a): Gross reveals well circumscribed, lobulated lesion with rubbery cut surface

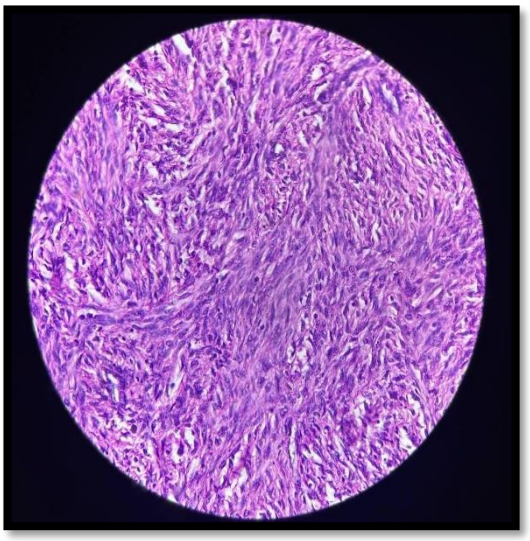

Figure 1 (b): Tumour comprised of spindle cells admixed with inflammatory cells

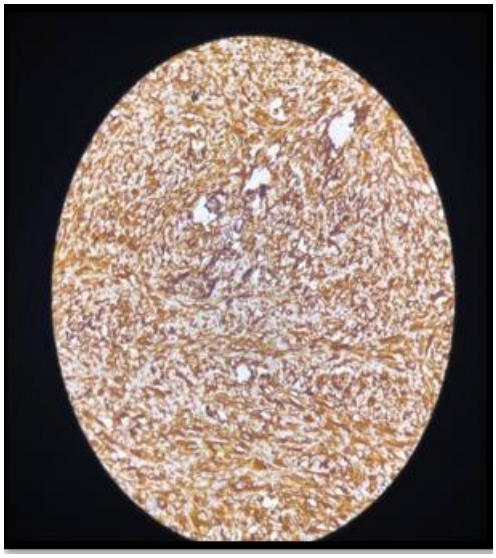

Figure 1 (c)

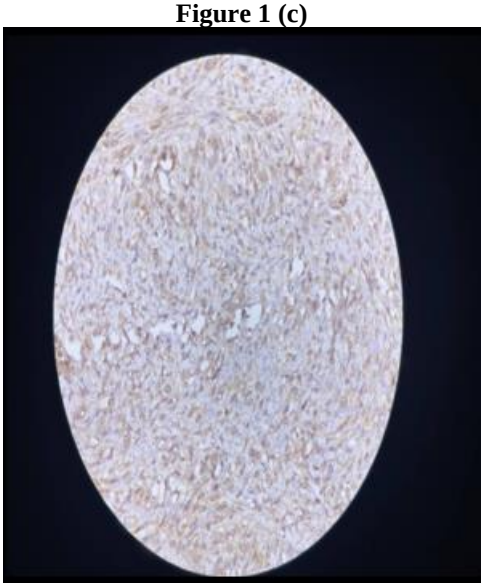

Figure 1 (d)

Figure 1(c), 1(d): Immunohistochemical stains of tumour demonstrated positive for vimentin and alk.

3. Discussion

Inflammatory Myofibroblastic tumor (IMT) is a rare spindle cell proliferation which has been reported in the literature. It is composed of myofibroblastic mesenchymal spindle cells with an inflammatory infiltrate of plasma cells, lymphocytes, and eosinophils[4]. IMT is the second most common paratesticular mass after adenomatoid tumor and comprises about 6% of paratesticular lesion and has been reported in paratesticular structures in fewer than 10 cases in literature.[5] The exact etiology is not known, but ischemia, infection and chronic irritation have been postulated as etiological factors.[6] Painless mass in scrotum is the usual presentation of paratesticular IMT. It has been most commonly reported in children or young adults. However, it has also been described in an elderly male patient.[7] Most IMTs are grossly poorly defined grey - white nodules, which may be gelatinous or firm. Occasionally, hemorrhage and cystic changes may be seen. They are composed of dominant spindle cells, which are proliferated with a variable inflammatory component. These spindle cells are myofibroblasts, and this is the reason for the current designation of this disease. Tumor recurrence is unusual after complete surgical resection or organ preserving combined modality therapy.[8]Immunohistochemical staining is reportedly positive for Vimentin (95% to 100%), Desmin (5% to 80%), smooth muscle Actin (48% to 100%), muscle specific Actin (62%), ALK (50%), and Keratin (10% to 89%).[9] These lesions usually show negative immunoreactivity for myoglobin or S100 protein.[10]

In conclusion, our case had similar clinical and pathological characteristics with other cases in the literature. Paratesticular IMT is a rare pathology and should be considered in the differential diagnosis of paratesticular masses. Although it has a benign nature, due to inadequate experience and recurrence potential in other organs, patients should be followed after surgical resection.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship: Nil.

Conflicts of interest: There are no conflicts of interest

Referrences

[1] Khandeparkar, S. G. and Pinto, R. G. 'Histopathological spectrum of tumor and tumor - like lesions of the Paratestis in a tertiary care hospital', *Oman Medical Journal* 2015, 30 (6), pp.461–468. doi: 10.5001/omj.2015.90.

[2] Matias M, Carvalho M, Xavier L, Teixeira JA. Paratesticular sarcomas: two cases with different evolution. BMJ Case Rep 2014 Aug 21; 2014.

[3] A paratesticular inflammatory myofibroblastic tumor and review of the literature, Journal of Oncological Sciences (2017)
[4] Coffin CM, Hornick JL, Fletcher CD. Inflammatory myofibroblastic tumor: comparison of clinicopathologic, histologic, and immunohistochemical features including ALK expression in atypical and aggressive cases. Am J Surg Pathol.2007; 31 (4): 509e520.
[5] A. Bhandari, J. S. Elder, and G. T. MacLennan, "Fibrous pseudotumor of the tunica vaginalis, " Journal of Urology, vol.179, no.2, p.727, 2008.
[6] Brauers A, Striepecke E, Mersdorf A, Sohn M, Fuzesi L. Inflammatory pseudotumor of the epididymis. Eur Urol.1997; 32 (2): 253e255.
[7] Chakrabarti N, Shetty R. Inflammatory myofibroblastic sarcoma of the spermatic cord. Indian J Surg.2010; 72 (2): 152e154.
[8] Kovach SJ, Fischer AC, Katzman PJ, et al. Inflammatory myofibroblastic tumors. J Surg Oncol 2006; 94: 385–391
[9] L. Cheng, S. R. Foster, G. T. MacLennan, A. Lopez - Beltran, S. Zhang, and R. Montironi, "Inflammatory myofibroblastic tumors of the genitourinary tract - single entity or continuum?" Journal of Urology, vol.180, no.4, pp.1235–1240, 2008
[10] H. Tunuguntla, A. Mishra, M. Jorda, and R. Gosalbez, "Inflammatory myofibroblastic tumor of the epididymis: case report and review of the literature, " Urology, vol.78, no.1, pp.183–185, 2011.