**Scholars Journal of Medical Case Reports** **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2015; 3(7):594-597 **ISSN 2347-9507 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2015.v03i07.012

# Fibrous Pseudotumor of the Scrotum: Report of a Case with Review of Literature

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**Abstract:** Intrascrotal fibrous pseudotumors are benign entity with only a handful of cases reported so far. Although histologically grouped under benign, they often clinically mimics as intrascrotal malignancy. Imaging studies and histopathological examination are of paramount importance in establishing the true nature of this disease. Because these tumors are benign, instead of radical orchiectomy, testes sparing surgery is contemplated to preserve fertility in these patients.
**Keywords:** Fibrous Pseudotumor, Orchiectomy, Organ Sparing Surgery.

## INTRODUCTION

Fibrous pseudotumors of the testes and paratesticular tissues represent a spectrum of heterogenous lesions ranging from diffuse fibroinflammatory proliferation of the soft tissues mimicking sarcoma to extensively collagenized paucicellular nodules. In some cases, a history of local trauma, hydrocele or infection may help in their recognition as reactive processes, thus preventing a misdiagnosis of malignancy [1]. A variety of benign conditions have been grouped under the term pseudotumor. We report herein a patient with left supratesticular mass diagnosed with fibrous pseudotumor of scrotum.

## CASE REPORT

32 years old male presented with painless swelling in the left hemiscrotum for last 2 years with gradual increase in size. Physical examination reveal a well circumscribed , nodular, left supra-testicular mass measuring approximately 5 cm x 3cm, which is non tender and mobile (Figure 1). The lesion was separate from ipsilateral testes and epididymis. Ultrasonography revealed a 3.68 x 2.74 cm left supratesticular mass with mixed echogenecity. MRI scrotum revealed a relatively well defined extra-testicular mass lesion measuring 3.8 x 2.6 x 4 cm , in the base of the left hemiscrotum with mixed signal intensity, hyper to hypointense signal on T2 and iso to hypointense signal on T1 weighted imaging. Post contrast images reveal heterogenous enhancement of the lesion (Figure 2). On exploration, approximately 4 cm nodular, white glistening mass in the left supratesticular region was found which was easily excised from surrounding structures (Figure 3). The histopathology revealed circumscribed nodule containing few aggregates of lymphocytes and plasma cells with spindled cells arranged in haphazard pattern in hyalinised and collagenous stroma showing focal calcification (Figure 4). Immunohistochemistry was positive for keratin and vimentin.

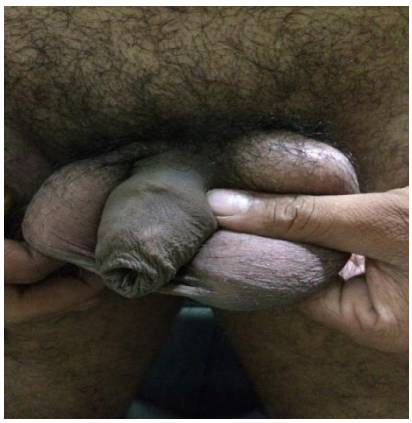

**Fig-1: clinical examination showing ipsilateral dual testes**

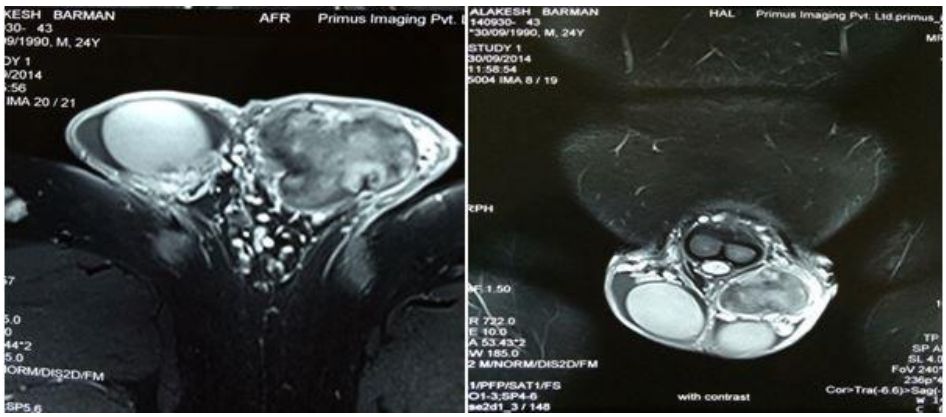


**Fig-2: MRI of Scrotum**

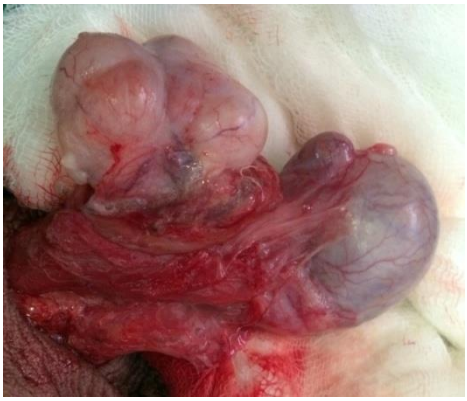

**Fig-3: Intraoperative View**

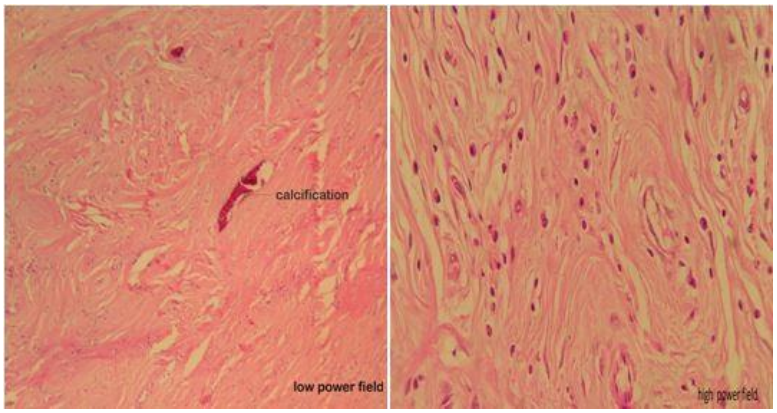


**Fig-4: Histopathology showing plenty of fibrous tissues with calcification**

**DISCUSSION**

A fibrous pseudotumor of the scrotum is an uncommon lesion with an incompletely understood etiology. Mostofi and Price used the term "Fibrous Pseudotumor" for all these lesions [2]. In 1964, Morgan characterized these fibrous lesions as reactive conditions and named them nodular periorchitis [3].

The incidence of fibrous pseudotumor has been reported to comprise approximately 6% of paratesticular lesions and tumors [4]. Although rare, it is second most common benign paratesticular lesion after adenomatoid tumor [2].

Fibrous pseudotumors can present at any age group, while the incidence peaks between the second and fourth decades of life [5]. Presentations of these lesions are not uncommonly associated with an episode of testicular torsion in the pediatric age group [6].

Histologically, fibrous pseudotumors have been referred to by multiple names including nodular periorchitis, nodular and diffuse fibrous proliferation, chronic proliferative periorchitis, inflammatory pseudotumor, proliferative funniculitis, fibromatous periorchitis, nonspecific peritesticular fibrosis and nodular fibropseudotumor. However, because some lesion lack inflammatory component and are not

nodular, the less specific term “fibrous pseudotumor” was preferred [7].

The category of benign fibroblastic proliferations of the paratesticular region was expanded by Hollowood and Fletcher. The benign fibroblastic proliferations of the paratesticular region mainly included the paratesticular fibrous pseudotumors and paratesticular inflammatory pseudotumors[6].

A recent study has histologically subdivided fibrous pseudotumor into 3 categories: (1) plaque like (dense fibrosis without significant inflammation), (2) inflammatory sclerotic (dense fibrosis with significant inflammation), and (3)myofibroblastic (reactive looking, tissue culture like cells with numerous capillaries and sparse inflammation) [7].

Although the terminology and classification have been confusing and controversial, these lesions are generally accepted to represent a benign reactive proliferation of inflammatory and fibrous tissue.

The etiology of these lesions is unknown. However, the reactive nature suggest its etiology likely to be in response to trauma, surgery, infection or inflammation. There is a reported association with a hydrocele in nearly 50% of cases and with prior trauma or epididymo-orchitis in about 30% [3]. In our case there was no hydrocele nor any history of local trauma.

Fibrous pseudotumors usually present as one or more, discrete or confluent hard unilateral extratesticular nodules or less commonly, as plaques, ranging in size from 0.5 to 8 cm. In our case, it presented as an left sided painless, mobile, supratesticular, intrascrotal nodule. Although majority of the cases reported involvement of the tunica vaginalis, 10% of cases involve the epididymis and the less than 15% involve the spermatic cord or tunica albuginea [3,5]. Inflammatory pseudotumors have been said to more commonly involve the spermatic cord. Rarely, there is extension into the testes by inflammatory pseudotumor [8].

Ultrasonographic appearance of the fibrous pseudotumors is widely variable, typically shows single or multiple solid paratesticular or tunica nodule or masses with variable echogenecity, with characteristics depending on the amount of fibrous and cellular tissue constituents, presence or absence of calcification, gross morphologic characteristics (single or multiple, size, confluence) and structures involved. Slight focal thickening of the tunica albuginea without abnormalities in the testicle may be detected by ultrasound.

A more specific appearance of the nodular lesions on MRI has been suggested. A fibrous pseudotumor has intermediate to low signal intensity on T1 weighted images and low signal intensity on T2 weighted images as evident in our patient. In patients in whom gadolinium contrast was given, there was little or no enhancement. However, in our case the lesion show heterogenous enhancement which may be due to disorganised fibrous and vascular element within the lesion. Thus, MRI may be the preferred modality of investigation for preoperative diagnosis and also follow up of these patients.

Microscopically, fibrous pseudotumors are composed of dense fibrous issue consisting of hyalinised collagen and fibroblasts/myofibroblasts in varying proportions with or without varying amounts of calcification or even ossification [3]. In our case there were aggregates of lymphocytes and plasma cells with spindled cells arranged in haphazard pattern in hyalinised and collagenous stroma showing focal calcification.Intraoperative frozen section may be helpful and in some cases may prevent radical orchiectomy. Gordetsky et al reported 5 cases of paratesticular pseudotumors where intraoperative frozen section analysis led to the diagnosis of this reactive, non neoplastic lesion thus obviating the need of radical orchiectomy [9]. Incomplete excision of the pseudotumor might be expected to result in clinical recurrence if there is an ongoing fibroblastic reaction in the tissues. However, no malignant potential with this entity and pseudotumor recurrence has been reported so far. Pauline and Simerman reported a case of fibrous pseudotumor of the scrotum with a suspicion of early post operative clinical recurrence, which was on pathologic examination to instead represent a post operative nodular proliferative reaction [10].

## CONCLUSION

Fibrous pseudotumor of scrotum although an uncommon entity, but often mimics scrotal neoplasm. It should always be considered in the differential diagnosis of nodular, extratesticular, intrascrotal mass. Isolated nodular mass, separated from the testes with imaging findings negative for suspected malignancy can be managed with surgical extirpation avoiding orchiectomy.

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