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Paratesticular inflammatory pseudotumour, a rare case

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ABSTRACT

Paratesticular masses are not infrequent, however the diagnosis is challenging. Differentiation from testicular tumours is of utmost importance. One of the rare forms is a fibrous pseudotumours with only about a couple of hundred cases documented worldwide. We present a case of left paratesticular inflammatory pseudotumour.

1. Introduction

Intrascrotal lesions are fairly common in males. Paratesticular lesions comprise nearly 30% of scrotal masses. Most of the testicular lesions are malignant, however paratesticular lesions tend to be predominantly benign. Pseudotumours or tumor-like proliferations may also present as paratesticular lesions. Fibrous or inflammatory pseudotumours comprise 6% of paratesticular lesions with peak incidence between 20 and 40 years.[1] The diagnosis is challenging particularly with regard to differentiation from testicular and paratesticular malignant tumours. The treatment modality of choice is surgical.

2. Case presentation

We report a case of a 59 years old male who presented with history of a painless swelling in left scrotum for one year. There was nothing remarkable in past and family history On clinical examination there were few firm to hard nodular, smooth, non tender masses, largest 2 × 2 cm, felt separate from left testis. The masses were relatively mobile. Baseline investigations was normal. Testicular tumour markers were negative. Ultrasonography reveled evidence of small multiple well defined, round to oval iso-echoic to hypo-echoic lesions seen in the left scrotal wall. On contrast enhanced MRI Scrotum, multiple nodular lesions, ranging from 5 to 15 mm within the layers of scrotal wall on left side, iso-intense to the surrounding structures on all sequences with homogenous marked post contrast enhancement (Fig. 1). Patient underwent surgical exploration and left orchidectomy was done. Intra operative findings revealed multiple nodules studding the tunica vaginalis, predominantly around epididymis and testis (Fig. 2A). The specimen was subjected to histopathological examination. On gross examination multiple firm nodules were identified on the external surface, varying in diameter from 0.3 cm to 1 cm. The cut section of the nodules was grey-white in color and firm in consistency. On microscopy, H&E stained slide from the nodule showed a tumor comprising of loosely arranged plump to spindle shaped myofibroblasts in a hyalinized stroma (Fig. 2B). The tumor cells showed vesicular nuclear chromatin, prominent nucleoli and moderate to abundant cytoplasm. The tumor was intermixed with predominantly lymphoplasmacytic cell infiltrate and numerous thick walled blood vessels. No cytological atypia or mitotic figures were noted. A histological diagnosis of inflammatory pseudotumour was made.

3. Discussion

Ever since Sir Astley Cooper et al. recognised the condition in 1830, paratesticular fibrous pseudotumors continue to be exceedingly rare with around 200 cases reported to date. The first detailed report was done by Balloch in 1904. Paratesticular fibrous pseudotumours have been known by various names like inflammatory pseudotumor, chronic proliferative periorchitis, proliferative funiculitis, fibromatous periorchitis, fibrous mesothelioma, benign fibrous paratesticular tumor, and reactive periorchitis.[2] The tumours are considered benign and usually involve tunica vaginalis but may also involve tunica albuginea, epididymis, and spermatic cord.[2] Although the exact etiology of these tumours is not known, a response to chronic irritation due to trauma, infection or an autoimmune process has been suggested. Recently an association with IgG4-related diseases like sclerosing sialadenitis, sclerosing pancreatitis and cholangitis, retroperitoneal fibrosis, and Riedel thyroiditis has been suggested. IgG4-expressing plasma cells may be seen in some of these tumours. However, our case did not have signs of these IgG4-related diseases.

The condition is predominnantly seen in young to middle-aged males

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and can present either as a painless single or multiple discreet nodules ranging from 0.5 to 8 cm in size or diffuse multinodular hemiscrotal mass. The consistency is usually hard and that makes it difficult to differentiate from a malignant lesion. The lesion may be associated with hydrocele in upto half of the cases. Detachment of nodules can lead to free floating 'pearls'.

Ultrasonography is the commonest initial imaging modality used. Well defined, homogenously hypoechoic, extratesticular lesions are the usual findings in paratesticular fibrous pseudotumours. In diagnostic dilemma MRI is a better modality, with typical findings being a very low signal density on T2-weighted images, intermediate signal density on T1-weighted images and no or minimal non homogenous contrast enhancement.[3]

The definitive diagnosis is made on histological examination. On gross appearance firm nodules, which may be multiple, white-tan or yellowish in colour are seen The cut surface has a typical whorled appearance. On microscopy, the features include multinodular or diffuse paucicellular fibroblast proliferation and abundant hyalinized collagen.[4] Inflammatory infiltrate comprising of plasma cells, lymphocytes, and occasional eosinophils may be present.[4] Immunohistochemistry may be positive for vimentin, smooth muscle-specific actin, and common muscle actin and negative for S-100, keratin, and desmin.

The management of paratesticular inflammatory pseudotumors is primarily surgical. Excision of the well circumscribed tumour usually suffices. However extensive lesions especially involving testes as well have been treated by orchiectomy. Though intraoperative frozen section biopsy can be utilised to preserve testis but the lack of abundant literature documenting the reliability of frozen section to differentiate these tumours from other potentially malignant lesions necessitates an orchiectomy at times particularly when the involvement is diffuse, affecting testes, unavailable or indeterminate frozen section.[5] There is paucity of literature on recurrence after surgery.

4. Conclusion

Paratesticular lesions can pose a diagnostic challenge, especially when these are extensive and involve testes. Fibrous or inflammatory pseudotumours are a rare differential diagnosis and can mimick malignant tumours. An adequate workup and definitive surgical treatment is

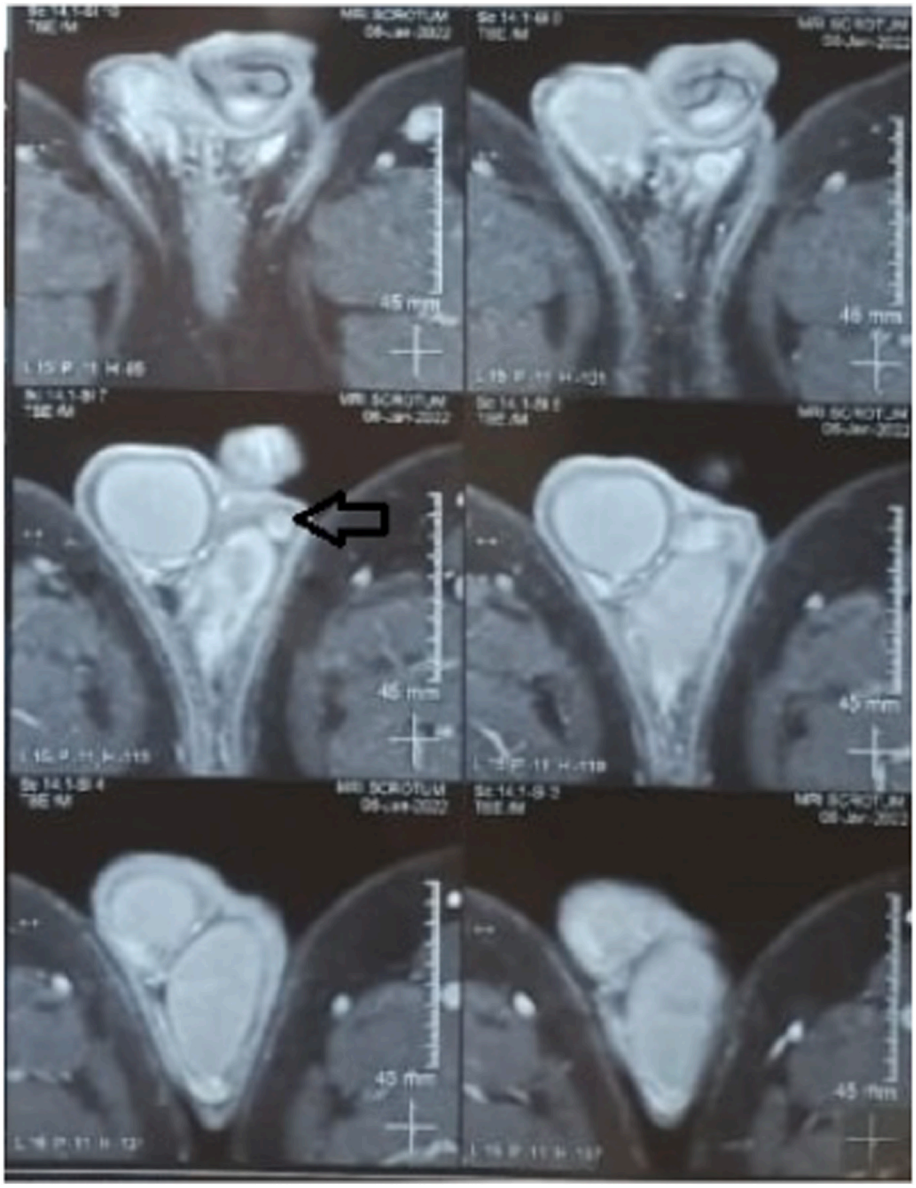

Fig. 1. Multiple iso-intense nodules with homogenous contrast enhancement.

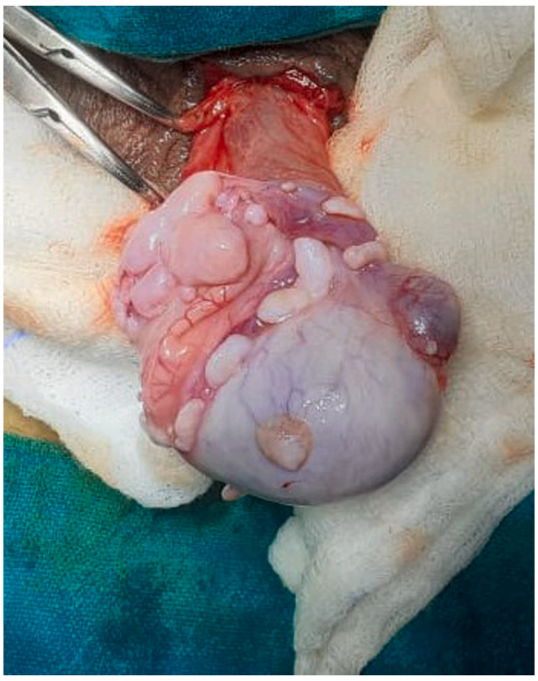

Fig. 2A. Intraoperative picture showing multiple nodules studding tunica vaginalis around epididymis and testis.

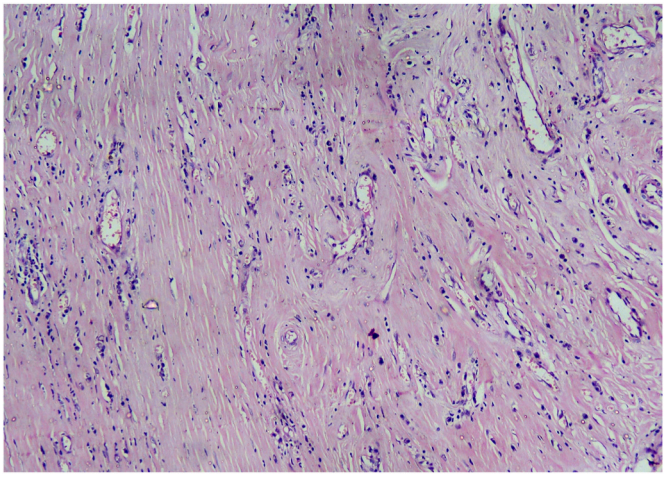

Fig. 2B. Photomicrograph shows a tumor composed of loosely arranged plump, oval to spindle shaped myofibroblasts in a hyalinized stroma intermixed with prominent lymphoplasmacytic infiltrate and many thick walled blood vessels. (H&E – 200X).

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Author contributions

1 Conceptualization, Writing - Original Draft, Investigation, Supervision
2 Investigation, Writing - Original Draft

Declaration of competing interest

Nil.

References

1. Basal S, Malkoc E, Aydur E, et al. Fibrous pseudotumors of the testis: the balance between sparing the testis and preoperative diagnostic difficulty. *Turk. J. Urol.* 2014; 40(3):125–129.
2. Seethala R, Tirkes A, Weinstein S, Tomaszewski JE, Malkowicz SB, Genega EM. Diffuse fibrous pseudotumor of the testicular tunics associated with an in flamed hydrocele. *Arch Pathol Lab Med.* 2003;127(6):742–744.
3. Krainik A, Sarrazin JL, Camparo P, Vincendeau S, Houlgatte A, Cardoliani YS. Fibrous pseudotumor of the epididymis: imaging and pathologic correlation. *Eur Radiol.* 2000; 10:1636–1638.
4. Jones MA, Young RH, Scully RE. Benign fibromatous tumors of the testis and paratesticular region: a report of 9 cases with a proposed classi fication of fibromatous tumors and tumor-like lesions. *Am J Surg Pathol.* 1997;21(3):296–305.
5. Subik MK, Gordetsky J, Yao JL, Di Sant'Agnese PA, Miyamoto H. Frozen section assessment in testicular and paratesticular lesions suspicious for malignancy: its role in preventing unnecessary orchiectomy. *Hum Pathol.* 2012;43(9):1514–1519.