CASE REPORT

Paratesticular fibrous pseudotumour

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SUMMARY

A 38-year-old man presented with a 2-year history of an enlarging scrotal nodule. Scrotal ultrasound revealed two soft tissue masses separate from the testicle in the right scrotum measuring 1.7 and 0.8 cm. The patient underwent excision of the scrotal nodules, revealing firm, white tissue with a smooth, nodular surface. On histology, the lesions appeared fibrous with scattered capillaries and areas of inflammatory infiltrate consistent with paratesticular fibrous pseudotumour. On a follow-up ultrasound at 6 months, he had no evidence of recurrence.

BACKGROUND

We feel it is important to consider this entity in the differential diagnosis of scrotal masses. Furthermore, recent research into the pathophysiology of these lesions has yielded new insight into the aetiology of paratesticular fibrous pseudotumour (PFP).

CASE PRESENTATION

A 38-year-old healthy man presented with a 2-year history of an enlarging, palpable right scrotal mass. He did not have any significant medical or surgical history including trauma, infection, autoimmune disease, genitourinary surgery or voiding symptoms. Physical examination revealed two painless, mobile nodules in the right hemiscrotum.

INVESTIGATIONS

Scrotal ultrasound demonstrated two lobular soft tissue masses separate from the testicle in the inferior medial right scrotum measuring 1.7 and 0.8 cm in size.

TREATMENT

The patient underwent surgical excision of the scrotal nodules. The larger mass measured 2.7×1.6×0.5 cm and was firm and white, with a smooth, nodular surface (figure 1). The second mass measured 0.9×0.7×0.5 cm and was similar in gross appearance. Histologically, the lesions demonstrated dense fibrous tissue with scattered capillaries and areas of inflammatory infiltrate of lymphocytes and plasma cells consistent with a fibrous pseudotumour (figure 2).

OUTCOME AND FOLLOW-UP

The patient recovered well from surgery and a 6-month follow-up ultrasound was performed showing no new lesions or evidence of recurrence.

DISCUSSION

PFP is a rare lesion of the scrotum that usually presents as a painless mass. It has been suggested that

Figure 1 Intraoperative photograph demonstrating paratesticular mass.

the fibrous pseudotumour is a benign fibroinflammatory reaction that results in one or more paratesticular nodules.¹ They can be difficult to distinguish from testicular masses, and hence surgical exploration is usually required to rule out malignancy. Approximately two-thirds of these masses involve the tunica vaginalis with infrequent involvement of the epididymis, spermatic cord and tunica albuginea.²

Figure 2 High-power H&E-stained section demonstrating paratesticular fibrous pseudotumour with a combination of lymphocytes and plasma cells.

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PFPs make up about 6% of paratesticular masses.³ These pseudotumours have been found in patients of a wide age range, although in a study by Sen *et al*,⁴ the authors found that the tumours were most common in the third decade. Most patients present with a palpable, painless scrotal mass. These masses usually are nodular, well delineated, smooth and mobile. Men may present with multiple masses or a single large mass with the size of the masses reported in the literature ranging from 0.5 to 8 cm.

It is noted that these masses can be associated with diffuse fibrosis of the tunica vaginalis or tunica albuginea,¹ while their appearance on ultrasound will vary depending on the degree of calcification, hyalinised collagen and granulation tissue in the lesion. They therefore may present as both hyperechoic or hypoechoic lesions.⁵ Since the findings on ultrasound and physical examination are frequently non-specific, it is common for these lesions to be surgically excised.

The histology of these lesions can be variable. Miyamoto *et al*⁶ categorised their series of 13 patients into three groups: (1) plaque-like, consisting of dense fibrous tissue without much inflammation, (2) inflammatory sclerotic, with dense fibrous tissue containing lymphocytes and plasma cells and (3) myofibroblastic, consisting of reactive-appearing tissue with sparse chronic inflammation. Our patient was most similar to the inflammatory sclerotic variant.

The aetiology of PFP is unknown, however many reports have revealed an association with previous trauma, infection or hydrocele. In the study aforementioned, 6 of 13 patients (46%) with PFP had a history of hydrocele.⁶ Recent evidence has suggested a link between fibrous pseudotumours and immunoglobulin G4 (IgG4)-related diseases.⁷ It is thought that PFP may represent another IgG4-mediated entity such as retroperitoneal fibrosis, autoimmune pancreatitis and sclerosing cholangitis, among others.⁸ Several reports in recent years have demonstrated that PFPs have an abundance of IgG4-staining plasma cells.⁹

Treatment of fibrous pseudotumours usually involves surgical excision in order to rule out malignancy. In some cases orchiectomy may be necessary when it is difficult to remove the lesion without injury to the testis. Intraoperative frozen section may be helpful and could prevent radical orchiectomy.¹⁰ Most reports have revealed a benign course of disease with cure following resection. While these lesions are rare, it is important to consider them in the differential diagnosis of paratesticular masses.

Learning points

- ▶ Paratesticular fibrous pseudotumour (PFP), although uncommon, is important to consider in the differential diagnosis for younger men with scrotal masses.
- ▶ There may be an association between PFP and previous trauma, infection or hydrocele.
- ▶ Recent evidence has demonstrated a possible link between PFP and other IgG4-mediated diseases.

Contributors MK prepared the majority of the manuscript. RR developed the concept for the manuscript and edited the manuscript in all phases of preparation. BDR provided pathological analysis and interpretation. JSR wrote sections of the manuscript and provided critical revision. All authors approved the final version.

Competing interests None.

Patient consent Obtained.

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