Case report

Paratesticular fibrous pseudotumour in a 26-year-old Nigerian man: A case report

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ABSTRACT

Introduction and importance: Benign fibroblastic proliferation located within the scrotum are uncommon. They are also identified as fibrous pseudotumour and usually arise from the paratesticular region. Their pathogenesis is unknown. These tumours are difficult to diagnose pre-operatively and resemble intra-scrotal malignancy.

Case presentation: We managed a 26-year-old Nigerian man with a five-year history of left sided hemiscrotal swelling. The mass was excised, and histology showed benign fibroblastic proliferation.

Discussion: Most paratesticular tumours are benign. Imaging studies that show the mass as separate from the testis, normal levels of tumour markers and clinical features not suggestive of malignancy make the case for organ-sparing mass excision, in the treatment of paratesticular fibrous pseudotumour, very strong.

Conclusion: Intra-scrotal benign fibrous proliferation is a challenge to diagnose pre-operatively but excision of this benign mass without an orchidectomy is practicable when pre-operative assessment suggests a benign disease.

1. Introduction
Paratesticular fibrous proliferations are benign and rare. They arise from testicular tunics and in about 85% of the time, they arise from the tunica vaginalis [1]. Occasionally are found to grow into the epididymis and spermatic cord with epididymal involvement being less than 10% [2]. The tunica albuginea may also be a site of origin [1]. Various names have been used for this lesion such as inflammatory pseudotumour, inflammatory myofibroblastic tumour, fibroma and proliferative funicularitis. The third decade of life is when they usually occur but other age groups may also be affected [3,4]. The clinical picture mimics malignancy hence diagnosis is usually made post-operatively from an orchidectomy specimen [5]. This work has been reported in line with the SCARE 2020 criteria [6].

2. Case presentation
A 26-year-old man presented at our Urology clinic with a five-year history of progressive left hemiscrotal swelling. The swelling was not painful, there was no history of lower urinary tract symptoms, drenching night sweats, cough, weight loss or fever. Physical examination revealed a non-tender, hard left hemiscrotal mass about 4 cm × 2 cm around the lower pole of the ipsilateral testis (Fig. 1a). The mass was excised, and histology showed benign fibroblastic proliferation.

Discussion: Most paratesticular tumours are benign. Imaging studies that show the mass as separate from the testis, normal levels of tumour markers and clinical features not suggestive of malignancy make the case for organ-sparing mass excision, in the treatment of paratesticular fibrous pseudotumour, very strong.

Conclusion: Intra-scrotal benign fibrous proliferation is a challenge to diagnose pre-operatively but excision of this benign mass without an orchidectomy is practicable when pre-operative assessment suggests a benign disease.
blood count. Serum β-human chorionic gonadotrophin, α-fetoprotein and blood chemistry was within normal limits. At operation the mass which was found to arise from the tunica vaginalis was excised (Fig. 2). The patient had an uneventful post-operative recovery and was discharged home.

Pathology report: Gross specimen was a piece of hard greyish white tissue measuring 3 cm × 2.5 cm × 2 cm. Cut section showed greyish white surfaces. Microscopic examination showed predominant interlacing fascicles of fibroblast and collagen. There were foci containing small sized blood vessels and infiltrates of mononuclear inflammatory cells were seen (Fig. 3).

Immunohistochemistry showed tumour cells negative for smooth muscle actin (SMA). Desmin was negative with S100 being focally positive. The final histologic diagnosis was Benign fibroblastic proliferation.

3. Discussion

Paratesticular fibrous pseudotumor was first described by Balloch in 1904 [7]. Fibrous pseudotumour account for about 6% of paratesticular tumours [3,4].

The aetiology of this rare tumour is still unclear but is generally considered to be a benign reactive proliferation of inflammatory and fibrous tissue probably in response to trauma, infection or inflammation [8].

Pre-operative diagnosis is challenging as the lesion tends to mimic malignancy. However, unlike testicular tumours of which about 95% are malignant, most paratesticular tumours are benign [9]. Hence, it is prudent to consider a benign disease process when imaging studies such as ultrasound suggest a lesion that is separate from the testis as in the index case. Furthermore, normal levels of tumour markers point more towards a benign condition. The presentation at 5 years of this slow growing swelling in an otherwise fit man with no other symptoms made a benign condition very likely.

Organ sparing surgeries may be impossible in cases where imaging is unable to show a separation between the testis and the lesion. This is especially the case in fibromatous periorchitis, a variety of benign fibrous proliferation, in which there is diffuse proliferative testicular encasement [10,11]. Scrotal exploration with frozen section biopsy has been advocated as the best option by Tobias-machado et al. [12] to save the testis. However, in their case report a radical orchidectomy was eventually done as the frozen section result was unable to ascertain if the tumour was a fibroma or a low grade fibrosarcomma. Furthermore, the studies in support of frozen section to prevent radical orchidectomy are sparse [1].

4. Conclusion

Intra-scrotal fibrous pseudotumor though challenging to diagnose pre-operatively is amenable to simple excision when pre-operative assessment suggests a benign disease.

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Ethical approval

Ethical approval was obtained for this research.

Human Research and Ethics Committee, Federal Teaching Hospital Ido-Ekiti, Nigeria. Potocol no. ERC/2021/05/25/549A.

Consent

Written and informed consent obtained from patient.

Author contribution

PAE: Wrote manuscript and did literature search.
OO: Handled histopathological diagnosis and photomicrographs.
AIO: Contributed to manuscript write-up and literature search.
CCA: Handled radiological diagnosis and images.
OAO: Proof- read and approved final version of manuscript.

Fig. 2. Intra-operative picture with blue arrow pointing to the left testis and black arrow pointing to the left hemiscrotal mass. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Fig. 1. a: pre-operative picture with arrow pointing to the left hemiscrotal mass and b: Scrotal ultrasound showing left hemiscrotal mass as oval lesion.
All authors have read and approved the manuscript.

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References
[1] H. Kodama, S. Hatakeyama, T. Matsumoto, T. Tanaka, H. Horiguchi, Y. Kubota, et al., A case of fibrous pseudotumor in the scrotum: challenge for diagnosis and testicular preservation, Case Rep. Urol. 17 (2018) (2018 Jan), e6904627.
[2] A. Khalilouf, Y. Aballad, R. Tazi, M.F. Tazi, M.J. Elfassi, M.H. Farih, Benign paratesticular fibrous pseudotumor with malignant clinical features, Rev. Urol. 13 (4) (2011) e203–e205.
[3] J. Singh, A. Hafiz, M. Rasool, H. Singh, S. Sharma, S. Bashir. Fibrous pseudotumor of paratestis mimicking a testicular tumor, Open Pathol. J. 13 (8) (2014 Jun) 1–3.
[4] S. Ugras, C. Yesil, Fibrous pseudotumors of tunica albuginea, tunica vaginalis and epididymis: report of two cases, Cancer Epidemiol. 33 (1) (2009 Jul 1) 69–71.
[5] K. Soumex, Z. Türcüaylimaz, M. Boyacioglu, M.N. Edali, O. Özen, A.C. Başaklar, et al., Diffuse fibrous proliferation of tunica vaginalis associated with testicular infarction: a case report, J. Pediatr. Surg. 36 (7) (2001 Jul 1) 1057–1058.
[6] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, A. Kerwan, SCARE Group, The SCARE 2020 guideline: updating consensus Surgical Case REport (SCARE) guidelines, Int. J. Surg. Lond. Engl. 84 (2020 Dec) 226–230.
[7] E.A.I.X. Balloch, Fibromata of the tunica vaginalis, Ann. Surg. 39 (3) (1904 Mar) 396–402.
[8] M.A. Jones, R.H. Young, R.E. Scully, Benign fibromatous tumors of the testis and paratesticular region: a report of 9 cases with a proposed classification of fibromatous tumors and tumor-like lesions, Am. J. Surg. Pathol. 31 (3) (1997 Mar) 296-305.

[9] Ş. Basal, E. Malkoc, E. Aydur, İ. Yildirim, Y. Kibar, B. Kurt, et al., Fibrous pseudotumors of the testis: the balance between sparing the testis and preoperative diagnostic difficulty, Turk. J. Urol. 40 (3) (2014 Sep) 125-129.

[10] D. Mutreja, M. Murali, A. Arya, Pseudotumors of paratesticular region mimicking malignancy, Arch. Int. Surg. 3 (1) (2013 Jan) 70.

[11] W.M. White, J. Hilsenbeck, W.B. Waters, Fibromatous periorchitis of testis, Urology 67 (3) (2006 Mar 1), 623.e15-623.e16.

[12] M. Tobias-machado, A.C.L. Neto, L.H. Simardi, M. Borrelli, E.R. Wroclawski, Fibrous pseudotumor of tunica vaginalis and epididymis, Urology 56 (4) (2000 Oct 1) 670-672.