



Chronic Orchitis with Micro-Abscesses Simulating Testicular Neoplasm: A Case Report and Review of Literature

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Authors' contributions

This work was carried out in collaboration between both authors. Authors SAO and FEO planned the article. Author FEO was involved in patient management while SAO reviewed the histopathological report and literature review. Authors SAO and FEO wrote the manuscript. Both the authors collectively approved the manuscript as it is for submission.

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Case Study

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ABSTRACT

Scrotal pathologies are relatively common among men, with infectious causes of the testicular diseases resulting mainly from ascending infection from the urethra, although haematogenous route have also been noted.

Herein, we report a case of a 37-year-old man who presented with testicular pain of six months duration. He has been treated for urinary tract infection in the past but still had mild fever and subsequently noticed an enlarging testicular mass necessitating referral to our facility. Doppler ultrasound scan done suggested a malignant neoplasm of the right testis and the patient had radical orchiectomy with histological diagnosis of chronic orchitis with micro-abscesses.

Inflammatory lesions of the testes can present as tumours with ultrasound scan findings simulating malignancies and can cause difficulties in management decisions.

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1. INTRODUCTION

Scrotal lesions are relatively common in urology and the spectrum of diseases could be acute or chronic. Lesions include trauma, torsion, infections, chronic inflammatory conditions, and neoplasms [1]. Non-neoplastic testicular lesions are encountered more commonly as observed in a review by Sharma et al [2]. Non-neoplastic testicular diseases are most common in the second decade with inflammatory lesions being second to undescended testes [2]. Epididymo-orchitis are believed to begin from the tail of the epididymis with subsequent spread to involving the testes [1,3]. The sources of infection could be urethral more commonly and hematogenous in some instances [1].

Chronic orchitis with micro-abscesses are caused commonly by infection with *E. coli*, *streptococci*, *staphylococcus*, *salmonella* and *actinomyces* [4–6]. These lesions also commonly present as hard masses that are easily mistaken for testicular cancers [4,7]. Tuberculous orchitis have being reported to present primarily as tumours [8,9]. In a review by Heidari et al. [10], *E. coli*, *klebsiella*, *pseudomonas* and *proteus* where the most common cause of infectious orchitis with a few cases of tuberculous orchitis observed.

Infective orchitis can present with painful or painless testicular induration [11–13]. A testicular abscess can be diagnosed by ultrasound scan but in some cases can present echogenic features that makes definite diagnosis of an abscess impossible [11,14]. In these sorts of situations, ruling out a neoplasm can be done by cytology or a needle biopsy allowing for histological diagnosis [8,15]. If the right diagnosis is made orchidectomy can be avoided and medical therapy instituted if appropriate. Morris et al [16], presented a case in which imaging deemed a right testicular mass suspicious for malignancy and options of management included surgery but after counselling the patient, decided to go for serial ultrasound scan which showed resolution of mass as he was on antibiotic treatment for a left orchitis.

We present a case of chronic orchitis with micro-abscesses that was diagnosed after radical orchidectomy for suspected malignant neoplasm of the right testis.

2. CASE REPORT

A 37-year-old farmer had presented to our urology clinic with complaints of progressive left scrotal swelling of eight months duration, with associated weight loss. The swelling which was noticed while taking his bath, was initially the size of a bean seed but had gradually increased in size to its present size. It was initially painless but was noticed to be slightly painful 2 weeks before presentation. The pain was of gradual onset with no known relieving or aggravating factors. He had poor external genitalia hygiene.

On physical examination, the patient had a pulse rate of 76/min, a temperature of 37.3°C, and a respiratory rate of 18/min. No features suggestive of gynaecomastia was observed. The penis and pubic hair were well developed. A left non-tender hemi-scrotal mass was found and it measured about 2x3cm. The mass was hard in consistency with irregular shape. It was attached to the inferolateral part of the left testis. The mass was fixed to the overlying skin with no differential warmth. The spermatic cord appeared normal. The contralateral testis was essentially normal. There was no inguinal lymph node enlargement. There were no abdominal masses noted.

His routine laboratory data such as full blood count, renal function tests, liver function tests, and urinalysis were all normal. The serum alpha-fetoprotein (AFP) level was 6.74ng/ml (normal = up to 10.9ng/ml) and β -human chorionic gonadotropin (β -HCG) was 3.58miu/ml (normal <2.0).

The scrotal ultrasound showed the left testis mass measuring 2.7 x 2.4 cm with increased blood flow on doppler interrogation. The right was normal in size with normal blood flow (Fig. 1). No intra-abdominal masses were seen.

On account of the above, a diagnosis of left testicular tumour with scrotal skin involvement was made. He was counselled for radical orchidectomy with scrotorrhaphy.

He underwent an emergency radical left orchidectomy via an inguinal-scrotal approach. An inguinal incision was made to locate and isolate the spermatic cord. An elliptical incision was then made over the left hemi-scrotum to dissect out the tumour. A skin island was left on

the tumour in the area where the tumour was attached to the scrotal skin (Fig. 2a). On examination in the pathology laboratory, the testis had a greyish white partly necrotic tumour mass located on the lower pole and extending through the tunica to the skin (Fig. 2b). The histology showed extensive micro-abscesses in both the interstitium and tubules admixed with histiocytes and few lymphocytes. The viable seminiferous tubules show features consistent with testicular atrophy. The abscess extends through the tunica vaginalis to the skin tissue. The epididymis shows mild infiltration by neutrophils and lymphocytes with focal areas of abscess formation and a diagnosis of infectious orchitis (chronic orchitis with micro-abscesses) was made (Fig. 3). We could not conduct microbiological analysis to identify the aetiology as the specimen had been in formalin for days and we don't have ready access to molecular pathology services.

There were no intra-operative or post-operative complications and patient was discharged home and is being followed up in our urology clinic.

3. DISCUSSION

Chronic orchitis with micro-abscesses can present with a chronic draining scrotal sinus or as a pseudotumour [5,6,11]. The commonest microbes implicated includes *E. coli*, *streptococci*, *staphylococci*, *salmonella* and *actinomyces*. In this index case we are unable to determine the aetiological agent as we didn't send any tissue sample for microbiological

culture. Although non-neoplastic lesions are relatively more common in the testes, a testicular mass that is associated with mild pains is a concern for worry as neoplastic lesions are fast growing [2,16].

Ultrasound is an important tool in diagnosing testicular abscesses and commonly present as an inhomogeneous testis with areas of increased and decreased echogenicity [14]. Although cases of testicular abscess that did not show the typical findings of hypoechoic and anechoic well demarcated mass with enhanced sound transmission have been reported [14]. Morris et al [16] reported a case of sub-clinical testicular mass that was suspicious of neoplasm on initial ultrasonography but had normal serum markers and so was managed with serial ultrasound scan and it was noted that the mass was not increasing but it rather reduced and then disappeared. It was not biopsied and their hypothesis was that it was most likely inflammatory. Also, the fact that testicular neoplasm can also present clinically like an abscess it becomes really difficult to make an impression with just clinical or radiological impressions [13,17].

Fine needle aspiration cytology has been shown to be of value in ruling out neoplasm and avoiding orchiectomy in cases that are not clinically indicated [15]. In this case there was extension of the lesion to the scrotal skin with mild thickening of the epididymis, which is unusual in testicular malignant neoplasms and more in keeping with an inflammatory lesion [13].

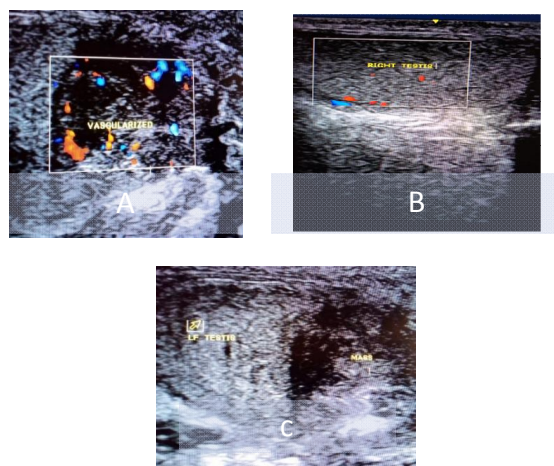


Fig. 1. Doppler scan showing (A)- Left testis and mass with increased blood flow, (A) Right testis with normal blood flow. (C) The ultrasound shows a mass on the left scrotum with left atrophic testis



Fig. 2. Showing the testes with the mass infiltrating into scrotal skin that was then excised along and sent to pathology. (B) Showing greyish-white mass extending into the scrotal skin. Note the thickening of the rete testes and the epididymis

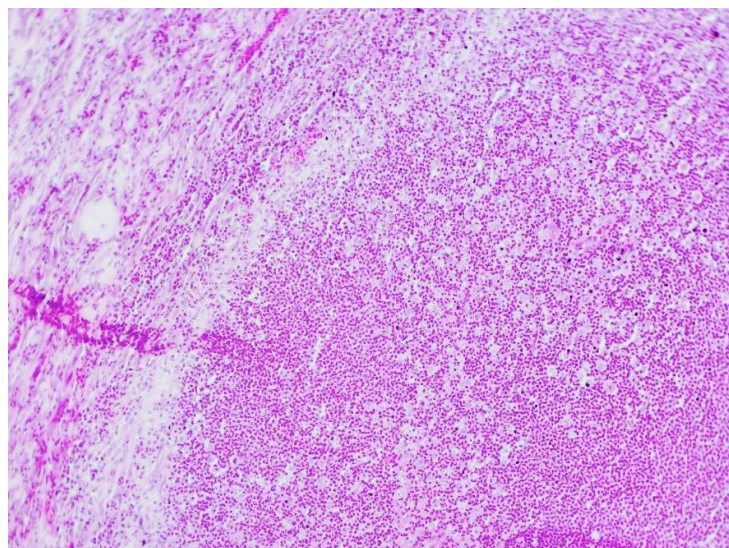


Fig. 3. Sections showing histiocytes admixed with collection of neutrophils (H&E x100)

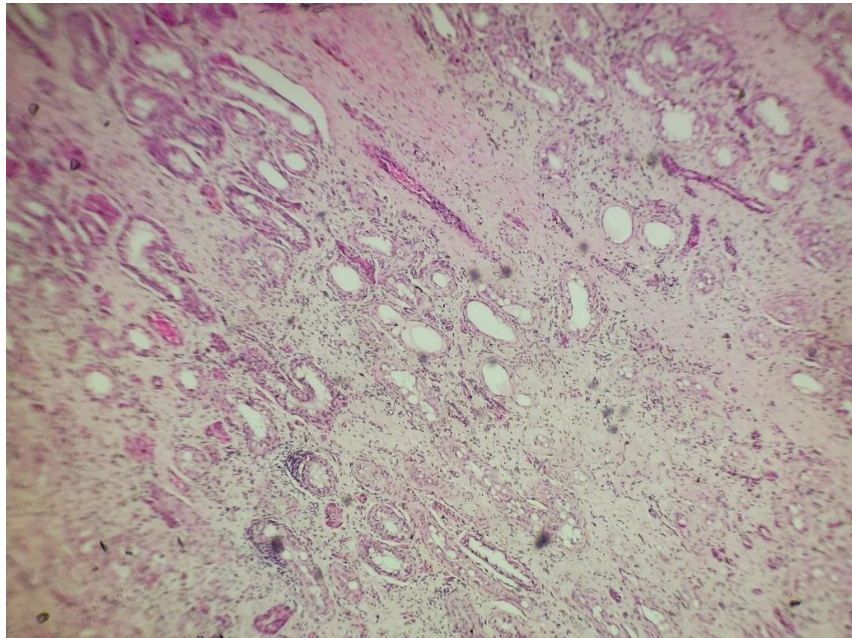


Fig. 4. Sections showing hyalinized seminiferous tubules mild infiltration of the stroma by inflammatory cells, consistent with atrophic testis. (H&Ex100)

4. CONCLUSION

Testicular abscess can mimic testicular neoplasm and salient features such as scrotal skin and epididymal thickening can be pointers to the aetiology and these should be combined with tumour markers assay and ultrasound findings in decision making and intervention.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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