

Tuberculous Orchitis in Chronic Renal Failure

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Summary

Tuberculosis confined to the testes with no epididymal involvement is uncommon. Chronic renal failure patients requiring hemodialysis have increased risk for developing tuberculosis. We report a 47-year old chronic renal failure man presenting with right testicular tuberculous orchitis. A high index of suspicion is required to recognize the unusual presentation of tuberculosis in this group of patients, and routine screening for tuberculosis may be recommended in patients undergoing hemodialysis.

Key Words: Tuberculosis, Orchitis, Chronic renal failure, Hemodialysis

Introduction

The incidence of tuberculosis (TB) is still remarkably high in developing countries, and The Centers for Disease Control suggests that the population considered at increased risk for TB includes patients with diabetes mellitus, chronic renal failure (CRF), and conditions requiring immunosuppressive therapy. Several immunological deficiencies involving impairment of cellular immunity are proposed to be significant in developing active TB after primary TB in CRF¹. However, there are conflicting reports about the incidence of TB in end-stage renal disease. The majority of the studies suggest it as high as 6 to 230 times that of the general population. Diagnosis can be obscured by the insidious presentation and nonspecific symptoms that can be attributed to uremia². Furthermore, TB orchitis without epididymal involvement is extremely rare and found at autopsy in only 3% of the patients with genital TB³. We reported a 47-year-old CRF man with right testicular swelling due to tuberculosis.

Case Report

A 47-year-old man first presented to the outpatient clinic

with a 3-month history of right testicular swelling and tenderness associated with 10 days of fever. He had been prescribed several antibiotics in another medical center. He denied having chronic cough, dyspnea, weight loss and any other disease except CRF. He has been undergoing hemodialysis since 1995. The family history was unremarkable. Laboratory findings were inconclusive except for a high erythrocyte sedimentation rate of 26 millimeters/hour. Urine cultures did not yield both nonspecific microorganisms and TB. The chest roentgenogram showed cardiomegaly. With the initial diagnosis of acute orchitis Ciprofloxacin treatment was initiated. Four weeks later there was no clinical resolution. Instead, increased local tenderness and fluctuation of a hard mass of the right testicle was revealed on examination. Levels of tumor markers were within normal limits. Echogram showed three heterogenous solid masses (36, 22, 16 mm in diameter), in the right testicle, and two of them contained foci of calcification. Consequently, he underwent inguinal exploration of the right testicle, and a right radical orchiectomy was performed. The final pathology report was granulomatous inflammation with caseous necrosis (Fig D). Ziehl-Neelsen staining of the specimen revealed presence of acid-fast tubercule bacilli. Subsequent

This article was accepted: 16 July 2003

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purified protein derivative intradermal test showed induration of 21mm. Consequently, combined anti-tuberculosis treatment was started.

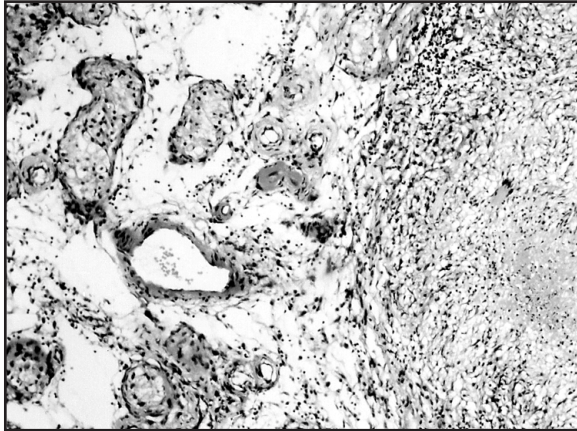


Fig. 1: Granulomatous inflammation with caseous necrosis. Note the atrophic seminiferous tubules at the left side. H&E x 200.

Discussion

Genitourinary TB has been reported to account for 20% to 73% of all cases of extrapulmonary TB in the general adult population, and despite modern anti-tuberculous chemotherapy it remains a threat to the general well being of the patient. Testicular involvement occurs infrequently being observed in 14-23% of patients with TB epididymitis. Furthermore, cases of tuberculous orchitis without involvement of the epididymis are uncommon. It is reported only in 1 of 32 patients with genitourinary TB². Tuberculous orchitis is thought to

occur by contiguous spread from the epididymis and therefore reflects a later stage of disease, although some authors consider it to be blood-borne. The incidence of orchitis in miliary TB, is less than 5%⁴.

The differential diagnosis of a scrotal swelling includes testicular tumour, acute infection, infarction, and granulomatous orchitis in addition to TB. The ultrasound appearances of TB are non-specific. Both infection and tumour of testis may appear as focal or diffuse areas of low reflectivity. Occasionally, it is impossible to differentiate such an intratesticular hypoechoic lesion from a tumor and early surgical exploration is required as we did in our case.

The symptoms and signs of genitourinary TB are often vague and insidious. A high index of suspicion is required to recognise the unusual presentation in this group of patients⁵. The definitive diagnosis of genitourinary TB is based on isolation and culture of mycobacterium tuberculosis or on guinea pig inoculation studies. Although the presence of bacilli in urine is a sine qua non of the disease, histopathological appearances can be used for the diagnosis as in our case⁴.

We emphasize that TB as a cause of scrotal swelling should be considered even in the absence of a past history of TB and with no radiological or bacteriological evidence especially in CRF patients⁵. Routine screening for TB has also been recommended for patients with CRF by some authors⁶. In considering the fact that extrapulmonary sites are becoming more common particularly in human immunodeficiency virus-associated cases, this report serves to remind clinicians to be constantly alert of TB as differential diagnosis in cases of CRF and patients with immunodeficiency state.

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