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CASE REPORT

Tuberculous Orchiepididymitis at the Caseo-Fibrous Stage, Secondary Location of Pulmonary Tuberculosis in an Immunocompetent Patient: A Case Report

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Abstract

Urogenital tuberculosis is recognized by the World Health Organization as a severe form of tuberculosis whose diagnosis is often very difficult and late, outside of an active or recent suggestive tuberculosis context.

We report a case of epididymo-testicular tuberculosis specific to the caseo-fibrous stage revealed acutely in an immunocompetent patient under treatment for pulmonary tuberculosis. The diagnosis was histopathological from the surgical specimen.

Keywords: Orchiepididymitis, Tuberculosis, Testicle

Résumé :

La Tuberculose urogénitale est reconnue par l'Organisation mondiale de la santé comme une forme sévère de tuberculose dont le diagnostic est souvent très difficile et tardif, en dehors d'un contexte tuberculeux évolutif ou récent évocateur.

Nous rapportons un cas d'une tuberculose épididymo-testiculaire diagnostiquée au stade caséo-fibreux révélée sous un mode aigu chez un patient immunocompétent et sous traitement d'une tuberculose pulmonaire. Le diagnostic était basé sur l'analyse anatomopathologique de pièce opératoire.

Mots clés : Orchiépididymite, Tuberculose,Testicule

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1. Introduction

Urogenital tuberculosis (UGT) is classified as a severe form of extrapulmonary tuberculosis by the World Health Organization [1]. Frequently, it is associated with disseminated tuberculous infections; consequently, active pulmonary involvement is observed in nearly 40% of patients, while disseminated extrapulmonary involvement occurs in 18% of patients who are not immunocompromised [2].

The epididymo-testicular manifestation of UGT is uncommon, accounting for only 2 to 6% of cases. Typically, a lack of response or incomplete response to non-specific antibiotic therapy prompts consideration of a tuberculosis diagnosis, while in other instances, the diagnosis is confirmed histopathologically from surgical specimens [3].

In this report, we present a case of epididymo-testicular tuberculosis identified at the caseo-fibrous stage, manifesting acutely in an immunocompetent patient who was in the third month of antituberculous therapy for pulmonary tuberculosis.

2. Case Presentation

A 65-year-old male patient, married with two children, who is both an alcohol and tobacco user, has been undergoing treatment for pulmonary tuberculosis for three months. He was referred from a tertiary hospital for the management of an acute febrile swelling of the right scrotum, persisting for two weeks despite the addition of analgesics and ceftriaxone to his antitubercular regimen. The patient exhibited no symptoms related to the lower urinary tract.

The patient's overall condition was stable. He was hemodynamically stable with a body temperature of 38°C. Physical examination revealed an enlarged right scrotum, with the testicle adherent to the scrotum and tender ; the skin appeared hyperemic and shiny (figure 1), with palpable fluctuation and firmness in other areas. The Prehn's sign was positive. Digital rectal examination showed a normal prostate.

Both renal and hepatic functions were intact. HIV serological testing was negative.

Figure 1. *Clinical presentation of the right bursal condition*

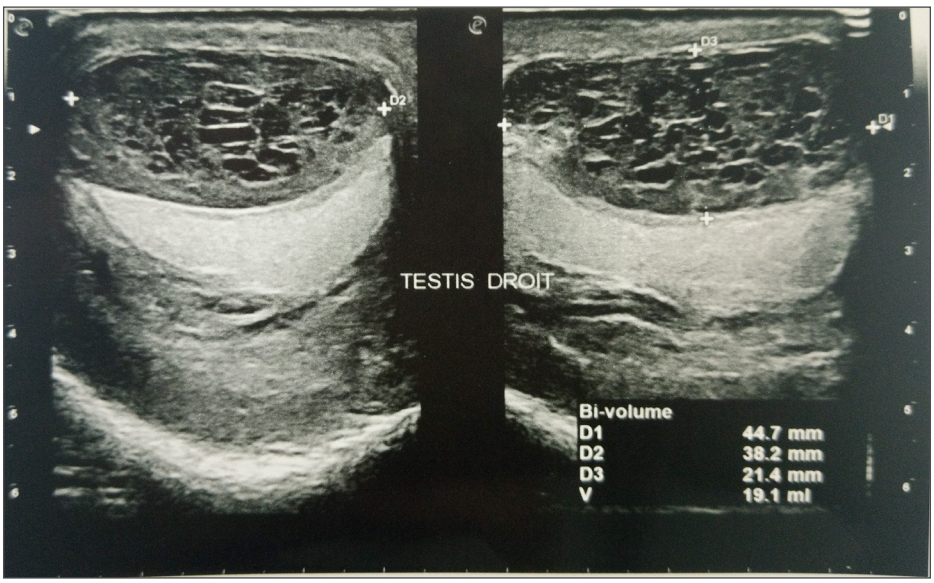

Figure 2(a, b). *Ultrasound depiction of the right testis modified by a heterogeneous structure*

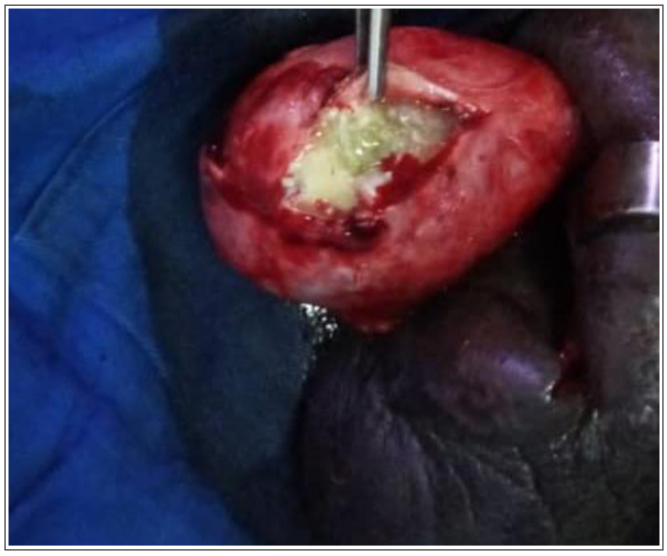

Figure 3. *Intraoperative view of the testicle (testicular base exhibiting caseous necrosis)*

Scrotal ultrasound (figure 2a and b) indicated that the right testicle was altered by a heterogeneous mass with areas of necrosis measuring 19cm3, also involving the epididymis.

Surgical exploration through a scrotal approach revealed a testicular lesion characterized by caseous necrosis (figure 3), necessitating an orchiectomy. Histopathological analysis identified dense fibrosis distorting atrophic seminiferous tubules, accompanied by areas of caseous necrosis, indicative of tuberculous orchiepididymitis at the caseo-fibrous stage.

The patient continued his antitubercular therapy during the continuation phase, which included INH (Isoniazid) and RMP (Rifampicin).

3. Discussion

Tuberculosis is a highly infectious, contagious, and endemic disease with a strong predilection for the respiratory system. There appears to be a current resurgence of the disease, with immunosuppression—whether due to viral causes like HIV, neoplastic conditions, or alcohol and tobacco use—being a significant contributing factor [4].

Urogenital tuberculosis, primarily affecting young adults, represents the most common extrapulmonary manifestation of the Koch bacillus (BK), accounting for 14 to 41% of cases. The World Health Organization recognizes this form as severe, capable of resulting in serious functional complications such as renal failure and infertility, and sometimes necessitating surgical intervention [1,2]. This condition may occur as part of a disseminated infection or may be confined to the urogenital tract, with the kidneys being the most frequently affected organs [5,6].

Epididymo-testicular involvement is infrequent, accounting for only 2 to 6% of cases as reported in various studies [1,4]. In a series of 50 cases of testicular tuberculosis (TUG), Ammani from Morocco identified 5 instances of the epididymo-testicular form [6].

Infection can occur through ascending or hematogenous routes. The hematogenous route is particularly implicated in cases of isolated genital tuberculosis that do not involve the urinary tract [7]. This pathway can account for the presence of an active pulmonary lesion, as observed in our patient.

The primary clinical presentation is scrotal swelling, which may be accompanied by fever and general health deterioration [8]. Typically, the condition progresses subacutely to chronicity, with the development of an epididymal nodule, often located caudally, occasionally bipolar, or presenting a “helmet crest” appearance that is almost pathognomonic of a tuberculous lesion [4,9].

The case we present, akin to that documented by Mallet [10] in France, represents a rare instance manifesting as acute orchiepididymitis. Diagnosing tuberculous orchiepididymitis, along with other urogenital manifestations, poses significant challenges and is often delayed in the absence of other indicative localizations, a history of exposure, or previous tuberculosis [9]. Typically, it is the lack of response to nonspecific antibiotic therapy or an incomplete response that suggests a diagnosis of tuberculosis. Frequently, at the time the lesion is diagnosed, there are no longer symptoms of active pulmonary tuberculosis [11]. This was observed in our patient, who exhibited almost no pulmonary symptoms.

Diagnosis confirmation relies solely on the histopathological examination of the epididymal and/or testicular surgical specimen [4,8].

The treatment protocol mirrors that of pulmonary tuberculosis, initiating with a four-drug regimen including isoniazid (4–5 mg/kg/day), rifampicin (10 mg/kg/day), pyrazinamide (20–25 mg/kg/day), and ethambutol (15–20 mg/kg/day) for two months, followed by a continuation phase with rifampicin and isoniazid for four months [2]. Surgical intervention is contingent upon the stage of disease progression and may be either conservative or ablative.

4. Conclusion

Tuberculous orchiepididymitis is an uncommon condition, characterized by challenges in diagnosis, often resulting in delays. This condition can lead to significant complications, including potential sterility. Clinicians should systematically consider this diagnosis in patients who present with an inflamed scrotal swelling, especially if there is a history of pulmonary tuberculosis or ongoing treatment for it.

Conflicts of Interest

The authors confirm that they have reviewed the final version of the manuscript and report no conflicts of interest.

5. References

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