

Testicular Tuberculosis Revealing HIV Infection in a 58-Year-Old Man : A Case Report and Literature Review

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Abstract : Genitourinary tuberculosis is the second most common extrapulmonary manifestation after lymph node involvement, but testicular tuberculosis remains a rare entity, representing less than 3% of cases [1]. In patients living with HIV, atypical extrapulmonary forms are particularly frequent [2]. We report a case of isolated testicular tuberculosis revealing HIV infection in a 58-year-old man with no significant past medical history. He presented with a painless swelling of the left testicle that had been developing for three months, associated with a weight loss of 5 kg/month and asthenia. Testicular ultrasound revealed a heterogeneous intratesticular lesion suspicious for a tumor. Chest examinations were normal, the CRP was negative, and the complete blood count showed lymphopenia (800/ μ L). The GenXpert sputum smear for *Mycobacterium tuberculosis* was negative. An orchiectomy was performed; histological analysis revealed caseous-follicular granulomatosis typical of tuberculosis, without malignancy. This case illustrates the diagnostic difficulty, the ability of testicular tuberculosis to mimic cancer, and the necessity of systematic HIV screening in any case of atypical extrapulmonary involvement.

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I. INTRODUCTION

Tuberculosis remains a major public health problem, with approximately 10.6 million cases annually according to the WHO in 2023 [1]. While pulmonary involvement is the most common form, extrapulmonary forms account for 15 to 20% of cases in the general population and up to 50% in individuals living with HIV [2]. Among these, genitourinary tuberculosis is the second most frequent extrapulmonary location, representing 20 to 40% of extrapulmonary TB cases in some series [3].

Testicular tuberculosis is rare, described in less than 3% of genitourinary tuberculosis cases [4]. It primarily affects young or middle-aged men and can present as orchitis, epididymitis, or a pseudotumoral intratesticular mass. In most cases, the clinical presentation mimics a testicular tumor, frequently leading to orchiectomy [5]. Ultrasound, while essential, is not specific: it generally shows a heterogeneous, hypoechoic, sometimes nodular mass [6].

The diagnosis most often relies on histology, revealing epithelioid and giant cell granulomas with caseous necrosis, which are typical but not exclusive [7]. Microbiological tests (culture, PCR, GenXpert) often lack sensitivity in isolated cases [8].

The association between tuberculosis and HIV infection is well known: HIV exponentially increases the risk of tuberculosis, and TB can sometimes be the initial manifestation [9]. Testicular forms are particularly reported in immunocompromised patients [10].

We present a case of pseudotumoral testicular tuberculosis revealing HIV infection, followed by a recent literature review.

II. CLINICAL OBSERVATION

A 58-year-old man with no prior medical history presented with a painless swelling of the left testicle that had been developing for three months. The patient reported a progressive increase in testicular volume, without pain, redness, or local warmth. He reported weight loss of 5 kg/month and significant asthenia. These general symptoms are common in extrapulmonary TB, particularly in immunocompromised individuals [11].

➤ Clinical Examination :

- The examination revealed :
- An indurated, irregular, painless swelling of the left testicle;

- Absence of local inflammatory signs;
- No palpable inguinal lymphadenopathy;
- A normal right testicle.

The clinical presentation suggested a testicular tumor, the most frequently suspected diagnosis in the literature for this type of painless mass [5,12].

➤ *Laboratory Tests*

- CRP : negative consistent with localized tuberculosis [13]
- Complete Blood Count : lymphopenia at 800/ μ L, consistent with early immunosuppression [14]
- Renal Function: normal
- Liver Function: normal

HIV serology was ordered according to recommendations for suspected extrapulmonary tuberculosis or unexplained weight loss [1,9].

III. IMAGING

➤ *Scrotal Ultrasound:*

Showed a heterogeneous, nodular, irregular intratesticular lesion suggestive of a malignant testicular tumor. This type of appearance is characteristic of pseudotumoral forms of testicular TB [6,15].

➤ *Chest X-Ray and CT Scan :*

Both examinations were entirely normal. The absence of pulmonary involvement does not rule out extrapulmonary TB : up to 30% occur without a visible pulmonary focus [2].

➤ *Microbiology*

GenXpert has low sensitivity in isolated extrapulmonary TB. Urine culture is positive in only 30–40% of UGTB [8]. Histology remains the diagnostic gold standard [7].

➤ *Histology*

The presence of caseous granulomas is characteristic of TB [17]. PCR on tissue increases sensitivity but is not essential when the histology is typical [19].

➤ *Treatment*

Treatment is based on the standard 2RHZE/4RH regimen recommended by the WHO [1]. Antiretroviral therapy should be initiated according to joint HIV/TB guidelines to avoid IRIS [20].

IV. CONCLUSION

Testicular tuberculosis is a rare and misleading form of extrapulmonary TB. Its pseudotumoral presentation frequently leads to orchiectomy. Histology remains the key diagnostic element. This case illustrates the importance of routine HIV screening in any atypical presentation, as well as the need to include TB in the differential diagnosis of painless testicular masses.

➤ *Conflict of Interest:* None.

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