

Case Report

Isolated tuberculous epididymo-orchitis masquerading as testicular tumor: a diagnostic dilemma

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ABSTRACT

Isolated tuberculous epididymo-orchitis is rare and may present with clinical and radiological features similar to those of testicular tumor. It is thus a diagnostic and therapeutic challenge. A 40 yrs old male presented with left sided mass in scrotum for past 6 months, which was clinically and radiologically diagnosed as testicular tumor with hydrocele. FNAC was attempted twice but was inconclusive. Left sided orchiectomy was done. However, the histopathological findings of testicular mass revealed features consistent with tuberculous epididymo-orchitis (TEO). This case emphasizes that patient may present with isolated TEO, which is considered an unusual presentation of tuberculosis and can masquerade as testicular tumor clinically and radiologically. But in countries where prevalence of tuberculosis is high, tuberculous orchitis must be considered in the differential diagnosis of testicular swellings.

Keywords: Isolated tuberculous epididymo-orchitis, Orchiectomy, Testicular tumor

INTRODUCTION

Genitourinary tuberculosis (GUTB) is the second most common form of extrapulmonary tuberculosis.¹ Tuberculous epididymo-orchitis (TEO) is an important manifestation of genitourinary tuberculosis.² Recent surge in the prevalence of tuberculosis worldwide linked to HIV pandemic has resulted in concomitant increase in extrapulmonary tuberculosis of which GUTB accounts for up to 20% in endemic cases.³ Most often, it is secondary to pulmonary tuberculosis or spread from various other sites of genital or urinary tract tubercular infection.⁴ Isolated TEO, without any evidence of tuberculosis elsewhere and without obvious signs and symptoms of tuberculosis is a very rare presentation and may present with clinical picture similar to that of scrotal

neoplasm thus posing a diagnostic challenge.^{5,6} A case of isolated tuberculous epididymo-orchitis is presented herewith which underwent high inguinal orchiectomy for suspected testicular lymphoma.

CASE REPORT

A 40 years old male presented in Surgery OPD with left scrotal swelling of 6 months duration. The swelling was progressively increasing in size. There was no history of fever, weight loss, night sweats, cough or hemoptysis. There was no history of trauma, dysuria or frequency of micturition. The history and family history were unremarkable. The patient had four children. Physical examination of scrotum revealed an enlarged left testicle measuring 6.5x 4.5x 3cm. The epididymis was thickened

and spermatic cord was palpable. The inguinal lymph nodes were not palpable. Prostate was found normal on per rectal examination. Ultrasonography findings revealed enlarged left testis with multiple poorly circumscribed hypoechoic areas with increased vascularity (Figure 1).



Figure 1: USG revealed enlarged left testis with multiple poorly circumscribed hypoechoic areas with increased vascularity.

The left sided epididymal head, body and tail appeared unremarkable. Spermatic cord also appeared thickened and echogenic. The opposite side testis, epididymis and spermatic cord were normal. The radiological features were suggestive of left testicular lymphoma with hydrocele. CECT whole abdomen was unremarkable except heterogenous and nodular enhancing areas in left scrotal sac with moderate hydrocele suggesting testicular neoplasm. The Complete blood counts, Liver function tests, Kidney function tests were within normal limits. ESR was 28mm in first hour. The serum tumor markers beta- human chorionic gonadotropin (β -HCG) and alpha fetoprotein (AFP) were normal, but his Lactic acid dehydrogenase (LDH) levels were high (350U/L). Chest radiograph was unremarkable. Fine needle aspiration cytology (FNAC) was attempted twice but yielded scanty serous fluid on first attempt and again on second attempt the yield was very scanty. FNAC was inconclusive. Keeping in view, the clinical and radiological findings a diagnosis of left sided testicular tumor was made. A high inguinal left sided orchietomy was performed and the specimen was submitted for histopathological examination.

The orchietomy specimen measured 6.5x 4x 3cm with attached spermatic cord, 8cm in length. Cut surface showed multiple areas of necrosis involving the testicular tissue. The necrotic areas were seen fungating into the hydrocele sac [Figure 2(a) and 2(b)]. Microscopic examination revealed numerous caseating epithelioid cell granulomas infiltrating the epididymis and the seminiferous tubules [Figure 3(a) and 3(b)]. Spermatic cord was unremarkable. The histopathological diagnosis was Necrotizing granulomatous epididymo-orchitis left side with hydrocele. However, Ziehl- Neelsen staining for acid fast bacilli was noncontributory. The patient was

given anti- tubercular treatment for 6 months. The post-operative recovery of patient was uneventful.



Figure 2:(a) Cut- surface of multiple areas of necrosis involving the testicular tissue and epididymis. (B): External surface of hydrocele sac with fungating necrotic areas.

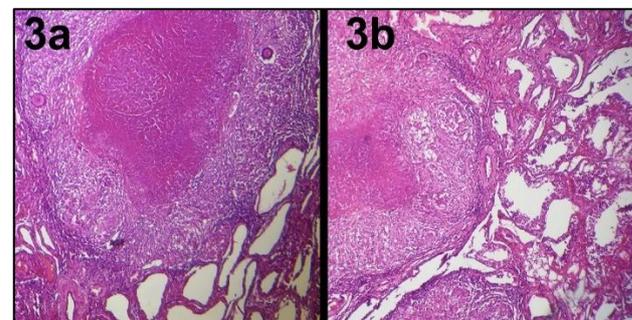


Figure 3: (a) and (b) Microphotographs of numerous caseating epithelioid cell granulomas infiltrating the epididymis and the seminiferous tubules (H and E; 200x).

DISCUSSION

Tuberculosis is a global epidemic and it is estimated that about one third of the world population is infected with *Mycobacterium tuberculosis* and most of the cases occur in Asia and Africa.⁷ It may involve any organ or system in the body, pulmonary involvement being the commonest presentation.⁸ Extrapulmonary tuberculosis is an important clinical problem because its clinical presentation may simulate malignant tumors, posing diagnostic and therapeutic challenges.⁹ Genitourinary tuberculosis is the second most common site of involvement among extrapulmonary tuberculosis and may involve kidney, ureter, bladder or genital organs.^{1,7} The most common genital site of tubercular involvement in males is the epididymis, which is involved by tuberculosis, either hematogenously or by retro canalicular descent of organisms from tuberculous prostate. The tuberculous involvement of testis occurs subsequently after the involvement of ductus deferens, if the epididymal tuberculosis spreads and disseminates.² Diagnosis of isolated tuberculous epididymo-orchitis (TEO) is often challenging as it may present as testicular

mass without specific signs and symptoms of tuberculosis as in the present case.¹⁰ Moreover, the imaging techniques are often not very helpful and may simulate a tumor due to disease's rare occurrence.¹¹ Also, elevated serum lactate dehydrogenase (LDH) and human chorionic gonadotropin (HCG) can be seen in both tuberculous orchitis and testicular tumor.¹² In our case, serum LDH levels were raised while other serum tumor markers were within normal limits. FNAC in our case was inconclusive because of insufficient aspirate. This could have been due to presence of moderate hydrocele along with testicular mass. Ultrasound guided FNAC could have been effective in yielding aspirate from the lesion site. All this added to the diagnostic dilemma and resulted in inappropriate surgical procedure. Urine culture may aid in diagnosing tuberculous infection, but it takes 6 to 8 weeks and is often false negative.¹³ Polymerase chain reaction (PCR) though expensive provides rapid detection of *Mycobacterium tuberculosis*.¹ FNAC of the testis is a simple, quick, minimally invasive and painless outpatient procedure and ultrasound guided FNAC of the testicular mass at the time of first scan would help in achieving a definite diagnosis earlier.¹⁴ In our case, accurate diagnosis was made only on histopathological examination of the orchiectomy specimen. Acid fast bacilli were not demonstrable on AFB staining of histological sections. In countries with high incidence and prevalence of tuberculosis, the diagnosis of TEO can be concluded even if caseating epithelioid cell granulomas are present without demonstrable acid-fast bacilli.¹³

CONCLUSION

Isolated tuberculous epididymo-orchitis (TEO) is a rare presentation of tuberculosis and its diagnosis is challenging as the clinical and radiological findings are nonspecific and may simulate those of testicular tumor. It must be considered in the differential diagnosis of scrotal swelling especially in countries where prevalence of tuberculosis is high. For a definite diagnosis of TEO, patients should be thoroughly investigated as the implications of an unnecessary orchiectomy far outweigh the cost of investigations for a medically treatable condition such as tuberculosis.

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REFERENCES

1. Wise GJ, Marella VK. Genitourinary manifestations of tuberculosis. *Urol Clin North Am.* 2003;30:111-21.

2. Kapoor R, Ansari MS, Mandhani A, Gulia A. Clinical presentation and diagnostic approach in cases of genitourinary tuberculosis. *Indian J Urol.* 2008;24:401-5.
3. Das P, Ahuja A, Gupta SD. Incidence, etiopathogenesis and pathological aspects of genitourinary tuberculosis in India; A journey revisited. *Indian J Urol.* 2008;24:356-61.
4. Wise GJ, Shteynshlynger A. An update on lower urinary tract tuberculosis. *Curr Urol Rep.* 2008;9(4):305-13.
5. Hopewell PC. A clinical view of tuberculosis. *Radiol Clin North Am.* 1995;33(4):641-53.
6. Gadgil NM, Ranadive NU, Sachdeva M. Granulomatous orchitis; a case report. *Indian J Urol.* 2001;18:92-4.
7. Dayal S, Kumar A, Singh SP, Verma A. Tuberculous orchitis mimicking a testicular tumor: A diagnostic dilemma. *Asian Pacific J Reprod.* 2014;3(1):80-2.
8. Fanning A. Tuberculosis; Extrapulmonary disease. *CMAJ.* 1990;160:1697-703.
9. Ozvaran MK, Baran R, Tor M, Dilek I, Deniryontar D, Arinc S et al. Extrapulmonary tuberculosis in non-human immunodeficiency virus infected adults in an endemic region. *Ann Thorac Med.* 2007;2:118-21.
10. Shenoy VP, Vishwanath S, D' Souza A, Bairy I, Thomas J. Isolated tuberculous epididymo-orchitis; an unusual presentation of tuberculosis. *J Infect Dev Ctries.* 2012;6:92-4.
11. Miu WC, Chung HM, Tsai YC, Luo FJ. Isolated tuberculous epididymitis masquerading as a scrotal tumor. *J Microbiol Immunol Infect.* 2008;41(6):528-30.
12. Shahi KS, Bhandari G, Rajput P, Singh A. Testicular tuberculosis masquerading as testicular tumor. *Indian J Cancer.* 2009;46:250-2.
13. Chaurasia JK, Ruquiya A, Feroz A, Mohammed N. Tuberculous Epididymo-orchitis mimicking a testicular tumor: Unusual presentation of the rare disease. *Int Res J Medical Sci.* 2014;2(7):17-20.
14. Handa U, Bhutani A, Mohan H, Bawa AS. Role of fine needle aspiration cytology in non-neoplastic testicular and scrotal lesions and male infertility. *Acta Cytol.* 2006;50(5):513-7.

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