International Research Journal of Medical Sciences _____ ISSN 2320 –7353
Vol. **2(7),** 17-20, July **(2014)** *Int. Res. J. Medical Sci.*

Tubercular Epididymo-orchitis mimicking a Testicular tumor: Unusual Presentation of the rare disease

Chaurasia Jai Kumar, Afrose Ruquiya, Alam Feroz and Naim Mohammed
Pathology department, J.N. Medical College (JNMC), Aligarh Muslim University (AMU), Aligarh, UP, INDIA

Available online at: www.isca.in, www.isca.me
Received 2nd July 2014, revised 12th July 2014, accepted 26th July 2014

Abstract

Isolated tubercular epididymitis or epididymo-orchitis is rare and may mimic a testicular tumor, posing a diagnostic and therapeutic challenge. A 56-yr-old male presented with a right-sided mass in scrotum from past 6 months, which was clinically and radiologically diagnosed as a testicular tumor. Right-sided orchidectomy was then done. However, the histopathological findings of the testicular mass revealed features consistent with tubercular epididymo-orchitis. Acid-fast bacilli staining of the histological sections also demonstrated the tubercle bacilli, confirmatory of diagnosis of tubercular epididymo-orchitis. This case emphasizes that tubercular epididymo-orchitis must be considered in the differential diagnosis of scrotal swelling in countries where prevalence of tuberculosis is high. A definite diagnosis is important to prevent unnecessary orchiectomy and subsequent effect on fertility.

Keywords: Granuloma, Epididymo-orchitis, testicular, tubercular.

Introduction

Tubercular epididymo-orchitis is one of the important manifestations of the genitourinary tuberculosis[1]. Often it is secondary to pulmonary tuberculosis or spread from various other sites of genital or urinary tract tubercular infection[2]. Tubercular involvement of epididymis and testis, without any evidence of tuberculosis elsewhere, are very rare and present a diagnostic and therapeutic challenge in cases without obvious signs and symptoms of tuberculosis[3]. Tuberculosis of epididymis with confluent caseation may lead to spread of tubercular infection to the testis which may simulate a malignant testicular tumor[4]. A case of isolated tubercular epididymo-orchitis mimicking a malignant neoplasm of testis is presented.

Case Report: A 56-yr-old male complained of a right-sided scrotal mass from the past 3 months. His past and family history was unremarkable. Patient was otherwise normal and healthy without any other signs and symptoms. Chest X-ray of the patient was clear. Physical examination of the genitalia revealed an enlarged right testicle measuring 6.0 x 4.5 x 2.5 cm. The epididymis was thickened and spermatic cord was palpable. The inguinal lymph nodes were not palpable. Prostate was also found normal on per rectal examination. Ultrasonographic findings suggested enlarged and heterogenous right testis with multiple well-defined hypoechoic lesions (figure-1a) and few solid components with in it with significantly increased peripheral vascularity. The right-sided epididymal head, body and tail appears bulky and heterogenous (figure-1b). Spermatic cord appears also thickened and echogenic. The opposite side testis, epididmysis and cord were normal. The radiological findings were suggestive of malignant testicular tumor. Keeping in view, the clinical and radiological findings, a diagnosis of testicular tumor involving the right testis was made. A right-sided inguinal orchidectomy was then performed and the specimen was submitted for final histopathological diagnosis.

The orchidectomy specimen measured 6.0 x 4.5 x 2.5 cm with attached 5.5 cm length of the spermatic cord. Cut-surface showed irregular cream-white areas of necrosis surrounded by normal appearing gray-white testicular tissue (figure-1c). Microscopy revealed distorted testis tissue infiltrated by many caseating epithelioid cell granulomas with langhans giant cells, replacing most of the testicular tissue (figures-1d and 2a). The granulomas infiltrated around the seminiferous tubules and epididymis (figures-1d, 2a and 2b). Spermatic cord also showed granulomas with caseating necrosis filling its lumen and muscular wall (figure-2c). Acid-fast bacilli (AFB) staining of the histological sections demonstrated tubercle bacilli (figure-2d), confirmatory of tuberculosis. Histopathological findings were thus consistent with the diagnosis of tubercular epididymo-orchitis. The patient was thereafter kept on the anti tubercular therapy for the past 6 months. The post-operative recovery of the patient was uneventful.

Discussion: Tuberculosis is an endemic disease in India. It may involve any organ or system in the body. In most of the cases, the distant organs are involved secondary to the pulmonary TB. However, tubercular involvement of an isolated organ without pulmonary involvement is infrequently reported[5]. About 27% (range; 14 to 41%) patients present with isolated genital involvement worldwide while in India its incidence is about 18%[6]. Isolated cases of extra pulmonary TB

in testis may simulate malignant tumors posing diagnostic and therapeutic challenges, as was encountered in the present case[7].

The most common genital site of tubercular involvement in males is the epididymis, which is involved by tuberculosis, either by hematogenous way or after tubercular prostatic infection by a retrocanalicular pathway. Tubercular infection of epididymis is identified by the presence of a hard caudal nodule. The tubercular involvement of testis occur subsequently after the involvement of ductus deferens, if the epididymal tuberculosis spreads and disseminates[1]. In the present case epididymis, vas deferens and testis presented typical caseating epithelioid cell granulomas, distending and enlarging the organ, mimicking a testicular neoplasm.

Diagnosis of isolated tubercular epididymo-orchitis is often challenging as it may presents as testicular lump without specific clinical signs and symptoms of TB [4]. Moreover, the imaging techniques are often not very helpful and may simulate a tumor due to the disease's rare occurrence[8]. Urine culture may be aid in diagnosing, however it takes 6 to 8 weeks long time and is positive only in 50% of cases[9]. Although new diagnostic sensitive methods are now available and aid in rapid identification of tuberculosis, they are not economical and feasible particularly in developing countries and therefore, a therapeutic approach based on minimally interventional techniques has to be developed. Fine-needle aspiration is a inexpensive, simple, widely used procedure which may be used for diagnosing the tubercular involvement of epdidymis and testis[10]. However it was not done in the present case to avoid the risk of tumor spillage as there was strong suspicion of malignancy.

Although, acid-fast bacilli may not always demonstrable in histological sections, hence, in the countries with high incidence and prevalence of TB, the diagnosis of tubercular epididymo-orchitis can be concluded even if caseating epithelioid cell granulomas are present without demonstrable acid-fast bacilli. However, in the present case, tubercle baciili were demonstrable on AFB staining of histological sections, confirmatory of the diagnosis of tubercular epididymo-orchitis.

Conclusion

Isolated tubercular epididymo-orchitis is a rare. It may be the first and only presentation of genitourinary TB. The diagnosis of tubercular epididymo-orchitis is difficult as clinical and radiological findings may be wide and non-specific and may simulate a testicular tumor. It must be considered in the differential diagnosis of scrotal swelling in countries where prevalence of tuberculosis is high. A definite diagnosis of this particular situation is important to prevent unnecessary orchiectomy and subsequent effect on fertility.

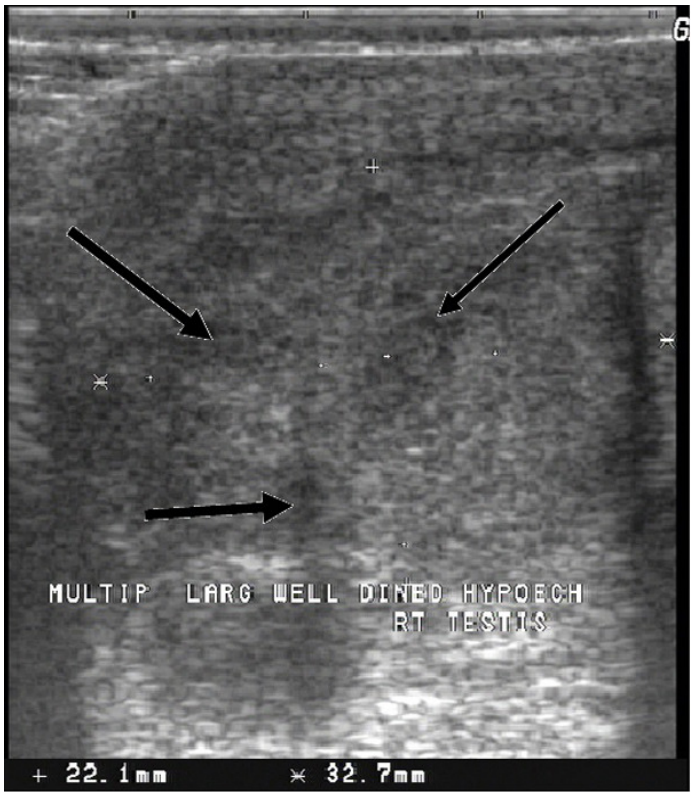

Figure 1a

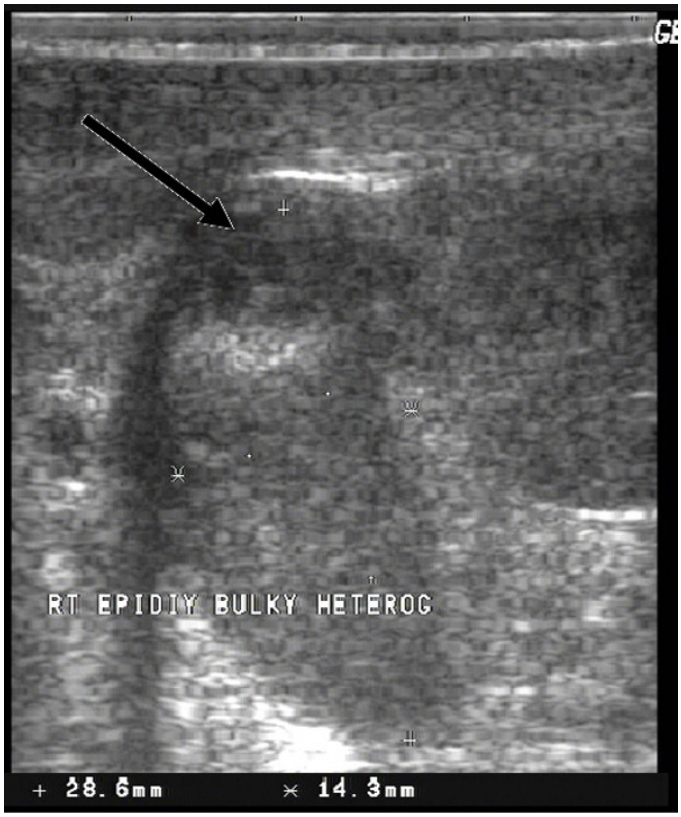

Figure 1b

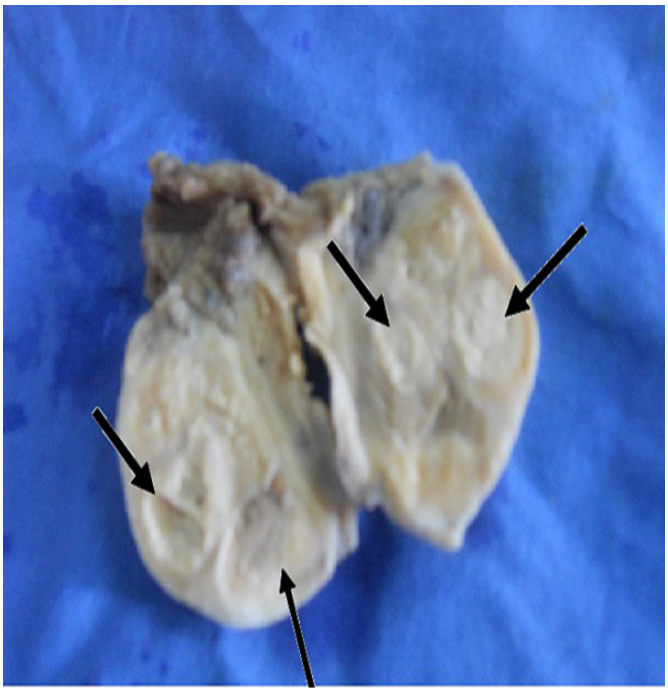

Figure 1c

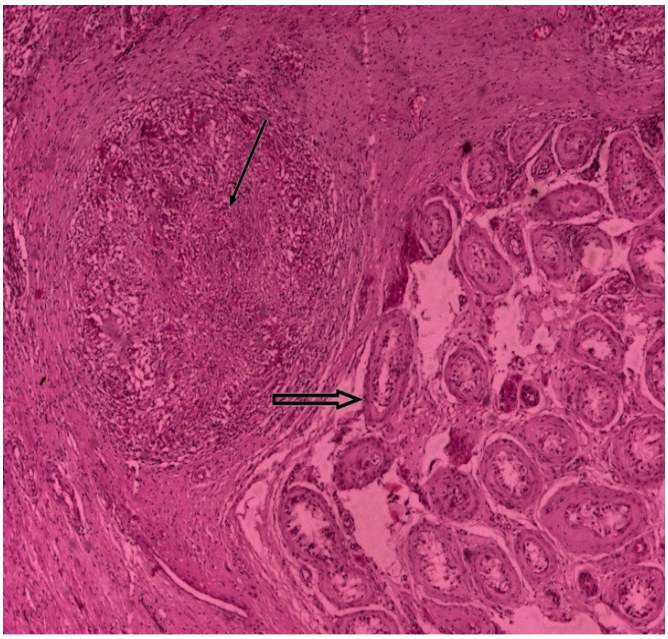

Figure 1d

Figure-1

a) Ultrasonograph (USG) of testicular mass showing enlarged and heterogenous right testis with multiple well-defined hypoechoic areas (arrow) with few solid areas, b) Ultrasonograph (USG) showing bulky and heterogenous epididymis (arrow), c) Cut-surface of orchidectomy specimen showing cream-white areas of necrosis (arrow), d) Section showing seminiferous tubules (double arrow) with adjacent epithelioid cell granuloma (arrow) (HandE x 50).

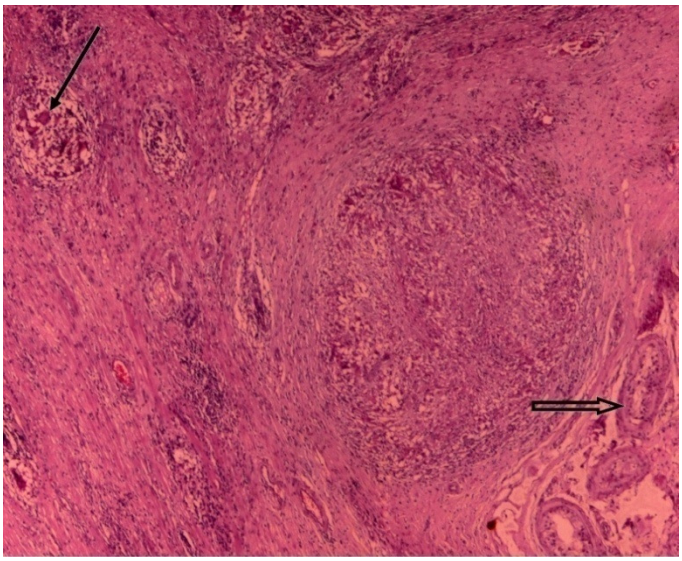

Figure 2a

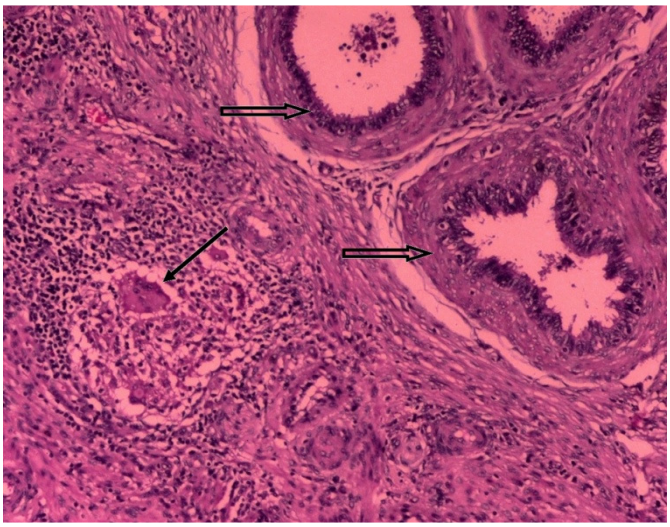

Figure 2b

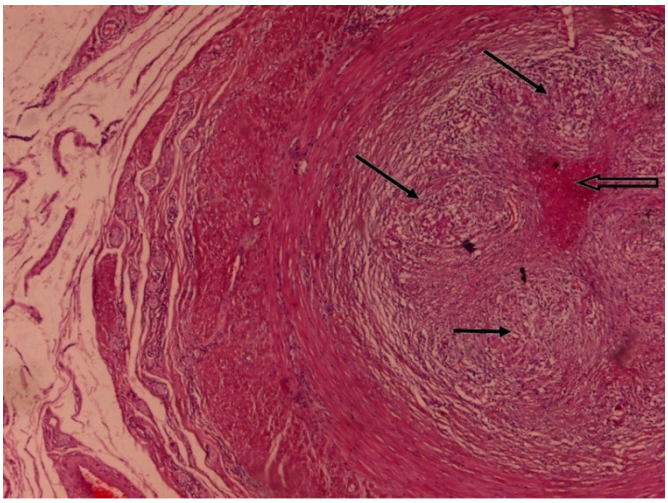

Figure 2c

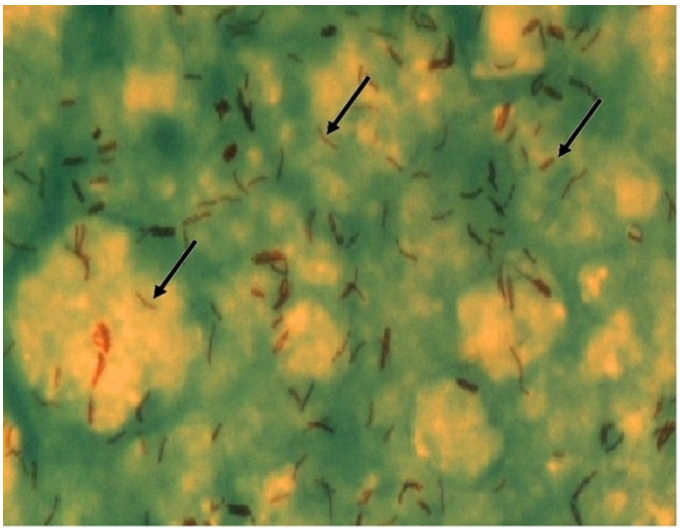

Figure 2d
Figure-2

a) Section showing multiple granulomas with langhan's giant cells (arrow) along with seminiferous tubules (double arrow) (HandE x 50), b) Section showing epididmysis (double arrow) with granuloma with langhan's giant cell (arrow) (HandE x 125), c) Section from spermatic cord showing multiple epithelioid cell granulomas (arrow) inside its lumen with caseous necrosis (double arrow) (HandE x 125), d) Section showing acid-fast tubercle bacilli (arrow) with seminiferous tubules in background (AFB x 125)

References

1. Kapoor R., Ansari M.S., Mandhani A. and Gulia A., Clinical presentation and diagnostic approach in cases of genitourinary tuberculosis, *Indian J Urol.,* **24(3)**, 401–405, **(2008)**

2. Wise G.J. and Shteynshlyuger A., An update on lower urinary tract tuberculosis, *Curr Urol Rep,* **9(4)**, 305–313, **(2008)**

3. Hopewell P.C., A clinical view of tuberculosis, *Radiol Clin North Am,* **33(4)**, 641–653 **(1995)**

4. Shenoy V.P., Viswanath S., D'Souza A., Bairy I. and Thomas J., Isolated tuberculous epididym-oorchitis: an unusual presentation of tuberculosis, *J Infect Dev Ctries*., **6(1)**, 92–94 **(2012)**

5. Chaurasia J.K., Garg C., Agarwal A. and Naim M., Tubercular thyroiditis with multinodular goitre with adenomatous hyperplasia: a rare coexistence. *BMJ Case Rep,* bcr-2013-200861 **(2013)**

6. Marjorie P.G. and Holenarasipur R.V., Extrapulmonary tuberculosis: An overview, *Am Fam Physician.,* **72(9)**, 1761–1768 **(2005)**

7. Fanning A., Tuberculosis: Extra pulmonary disease, *CMAJ.,* **160,** 1697-1603 **(1990)**

8. Miu W.C., Chung H.M., Tsai Y.C. and Luo F.J., Isolated tuberculous epididymitis masquerading as a scrotal tumour, *J Microbiol Immunol Infect*., **41(6)**, 528-530 **(2008)**

9. Cek M., Lenk S., Naber K.G., Bishop M.C., Johansen T.E., Botto H., Grabe M., Lobel B., Redorta J.P. and Tenke P., EAU guidelines for the management of genitourinary tuberculosis, *Eur Urol.,* **48(3)**, 353–362 **(2005)**

10. Sah S.P., Bhadani P.P., Regmi R., Tiwari A. and Raj G.A., Fine needle aspiration cytology of tubercular epididymitis and epididymo-orchitis, *Acta Cytol*., **50(3)**, 243-249 **(2006)**