Tuberculous Epididymo-Orchitis: a Case Report

Thirachai Kongiamtrakun, M.D.*
Voraphong Tongdee, M.D.*

Abstract : This is a case report of a 23-year-old Thai male who was presented to Pakchong NaNa Hospital after one day of acute severe scrotal pain. The definite diagnosis was bilateral tuberculous epididymo-orchitis and miliary tuberculosis. Tuberculosis should be considered in the differential diagnosis of a scrotal swelling especially in those who have a history of exposed tuberculosis or in high risk groups, even though tuberculous epididymo-orchitis is a rare entity.

บทคัดย่อ : วัณโรคอัณฑะ: รายงานผู้ป่วย 1 ราย
ธีระชัย คงเอี่ยมตระกูล พ.บ.,* วรพงษ์ ทองดี พ.บ.*
*โรงพยาบาลปากช่องนานา นครราชสีมา
เวชสารโรงพยาบาลมหาราชนครราชสีมา 2541;22:133-6.

รายงานผู้ป่วยชายไทยอายุ 23 ปี มารับการตรวจที่โรงพยาบาลปากช่องนานาด้วยอาการปวดลูกอัณฑะอย่างรุนแรง 1 วัน ผู้ป่วยได้รับการวินิจฉัยเป็นวัณโรคอัณฑะทั้งสองข้างและวัณโรคปอดชนิดแพร่กระจาย วัณโรคเป็นโรคหนึ่งที่ควรได้รับการพิจารณาแยกโรคในผู้ป่วยที่มีอาการปวดบวมลูกอัณฑะโดยเฉพาะผู้ป่วยที่มีประวัติสัมผัสวัณโรคหรือผู้ป่วยในกลุ่มเสี่ยง ถึงแม้ว่าวัณโรคอัณฑะจะเป็นโรคที่พบได้น้อย

---

* Pakchong NaNa Hospital, Nakhon Ratchasima

The genitourinary tract is the site most frequently involved with extrapulmonary tuberculosis. Genitourinary tuberculosis clinically represents 2.34% of the cases, although it has been noted in 7% of the patients with tuberculosis at autopsy.[1,2] It frequently occurs at the age of older than 35 years[1] and at least 70% of patients have a history of previous tuberculosis. Renal tuberculosis is first and mostly affected by tubercle bacilli via hematogenous route from the lungs. Tuberculous epididymitis commonly results from reactivation of renal tubercles and antegrade seeding of the prostate and seminal vesicles, with subsequent retrograde extension to the epididymis via intracanalicular and lymphogenous routes. It occurs rarely during miliary tuberculosis via hematogenous route.[3]

Tuberculous orchitis generally involved by contiguous extension from epididymal infection, possibly through the globus major.[4] It occurs infrequently and most after result from epididymal infection.

Clinical manifestations of tuberculous epididymo-orchitis are acute pain and enlargement of the epididymis and redness of the scrotal skin or insidious chronic course with minimal epididymal enlargement and pain or hydrocele.[5] It is diagnosed by examination of the scrotal drainage and multiple urine cultures.[6] Treatment is primarily with antituberculosis therapy, but orchiectomy should be performed in those who fail to respond after four months or tumor is suspected.[7] We presented an interesting case of bilateral tuberculous epididymo-orchitis and miliary tuberculosis.

Case Report

On August 14, 1997, a 23-year-old Thai male was admitted to Pakchong NaNa Hospital suffering from one day of acute pain and enlargement of left scrotum. He had no history of prior scrotal trauma, dysuria, frequency, urgency, sexually transmitted or urological disease. He had exposed tuberculosis from his grandfather 10 years ago. He had low-grade fever and productive cough 1 month ago. Two weeks prior to admission, he complained of pain and enlargement of his left scrotum. He was admitted to our hospital and received intravenous ampicillin plus gentamicin for treatment of acute orchitis. After three days, he still had low-grade fever although scrotal pain was subsided. He felt better and wanted to take antibiotics at home. A few days after discharge, his scrotum became more painful and swollen than before even receiving antibiotics, so he was readmitted.

On physical examination, he was febrile (body temperature=38°c), blood pressure was 110/80 mmHg, pulse rate was 100/min, and respiratory rate was 20/min. The lungs and heart were normal. Liver and spleen were not palpable. On palpation, the left testis was tender and enlarged with fluctuated nodules. Redness of scrotal skin was noted. The left epididymis was also swollen and tender. The right testis slightly enlarged with a small fluctuated nodule. No urethral discharge was noted.

Laboratory examinations revealed 47% of hematocrit, 20,900/mm^3 of white blood cell count with 92% PMN, 7% lymphocyte, and 1% eosinophil. Platelets were adequate. Urinalysis showed 20-30 rbc and 30-50 wbc per high power field. Blood urea nitrogen was 9 mg/dL and creatinine was 0.9 mg/dL. Chest x-ray film showed diffuse microfibro nodular infiltration, compatible with miliary tuberculosis. Intravenous cloxacillin was administered for

a treatment of scrotal abscess. Incision and drainage of the left testis and fine needle aspiration of right testis were performed under spinal block. Sputum and scrotal drainage for acid-fast bacilli were found. Anti-HIV test was negative.

The patient was treated with ethambutal (1,000 mg) and pyrazinamide (1,000 mg) for 2 months and isoniazid (320 mg) and rifampicin (480 mg) for 6 months. All drugs were given as single daily doses. After two weeks of treatment, he had no scrotal pain and theirs sizes gradually subsided. At the end of treatment he looked well and his scrotums returned to normal size Sputum for acid-fast bacilli was negative. No complication of treatment was noted. Pathological report was scrotal abscess.

Discussion

Tuberculous epididymitis generally result from reactivation of renal tubercles and antegrade extension from the prostate and seminal vesicles. It is frequently associated with tuberculosis of pulmonary and genitourinary tract. Gorse et al[8] reported that 50% of patients with tuberculous epidymitis had pulmonary tuberculosis and Borthwick[9] reported that 80-85% of them had renal tuberculosis. Pathologically, the earliest lesions of tuberculous epididymitis are discrete or conglomerate yellowish, necrotic area in the tail portion of the epididymis. The process may be regress with calcification or progress up the entire epididymis and extend into the testis.

The standard test are examination of the scrotal drainage and multiple urine cultures. The result is sometimes negative so that other diagnostic methods should be used. The sonographic of testis is recently more clinical used, but it is nonspecific. The most notable sonographic findings of tuberculous epididymitis were an enlarged epididymis, predominantly in the tail portion, and marked heterogeneity of the echo texture of the involved epididymis.[10] DNA amplification of scrotal drainage or urine is a sensitive method for detection of *Mycobacterium tuberculosis*. Its accuracy for detection on tuberculosis has not been evaluated but given the experience with other lesions in the body, its specificity can be expected to approach nearly 100%. The study by Delacourt et al[11] concluded that sensitivity and specificity of DNA amplification for detection of tuberculosis in children were 83.3% and 86.7% respectively.

The differential diagnosis of tuberculous epididymitis from other epididymis and testicular tumor may be difficult, so a high index of suspicion is necessary especially in high risk groups. These include overcrowding and poverty, immigration from high-incidence countries, concurrent infection with HIV, and intravenous drug abuse.[12,13] When the diagnosis is made, antituberculous drugs should be started promptly and continued for at least 6 months. Long term follow up is the rule.

In conclusions, tuberculosis should be considered in the differential diagnosis of a scrotal swelling especially in those who have a history of exposed tuberculosis or in high risk groups.[12,13]

References

1. Extrapulmonary tuberculosis in the United States. Am J Epidemiol 1979;109:205-17.
2. Rosenberg S. Has chemotherapy reduced the incidence of genitourinary tuberculosis? : a comparison based on necropsy material from Bellevue Hospital. J Urol 1963;90:317-23.

3. Mikuz G, Danjanov I. Inflammation of the testis, epididymis, peritesticular membranes and scrotum. Pathol Ann 1982;17:101-8.
4. Reeve HR, Weinerth JL, Peterson LJ. Tuberculosis of epididymis and testicle presenting as hydrocele. Urology 1974;4:329-31.
5. Kahn RI, McAninch JW. Granulomatous disease of the testis. J Urol 1980;123:868-71.
6. Ross JC, Gow JG, ST Hill CA: Tuberculosis epididymitis: a review of 170 patients. Br J Surg 1961;48: 663-6.
7. Gorse GJ, Belshe RB. Male genital tuberculosis: a review of the literature with instructive case reports. Rev Infect Dis 1985;7:511-24.
8. Borthwick WM. Present position of urinary tuberculosis. Br J Urol 1970;42:642-6.
9. Kim SH, Pollack HM, Cho KS, Pollack MS, Man MC. Tuberculous epididymitis and epididymo-orchtis: sonographic findings. J Urol 1993;150:81-4.
10. Delacourt C, Poveda JD, Chureau C, et al. Use of polymerase chain reaction for improved diagnosis of tuberculosis in children. J Pediatr 1995;126:703-9.
11. Spence DPS, Hotchkiss J, Williams CSD, Davies PDO. Tuberculosis and poverty. BMJ 1993;307:759-61.
12. Drobniewski FA, Pozniak A, Uttley AHC. Tuberculosis and AIDS. J Med Microbiol 1995;43:85-91.