A Pulmonary Tuberculosis Case With Prostate, Epididymis and Testes Involvement

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Abstract

In this article, we report a 62-year-old man with pulmonary, prostate, epididimys and testes tuberculosis. This patient was referred to our hospital with a history of cough and sputum of over 5 months duration, weight loss, scrotal edema and frequent urination. Sputum acid fast bacilli smear test of the patient was positive. Thorax computerized tomography showed multiple small cavitary lesions. Reticulonodulary infiltrations and granulomas with caseification necrosis were demonstrated on prostate biopsy. The patient, diagnosed as a case of pulmonary tuberculosis with genitourinary involvement, received antituberculosis treatment for 9 months and all symptoms regressed with this treatment. An epididimectomy was also performed to exclude malignancy.

Turkish Respiratory Journal, 2004;5:(2):113-116

Keywords: *pulmonary tuberculosis, genitourinary system tuberculosis, prostate, epididymal tuberculosis, testes tuberculosis*

Introduction

The term "genitourinary system tuberculosis", in addition to tuberculosis of the kidneys, comprises tuberculous diseases of the urinary bladder and ureter, of fallopian tubes, endometrium and ovaries in women and of the prostate, epididymis and testes in men. Epidemiologically, it occurs more frequently in elderly men (1). The incidence of genitourinary system tuberculosis is reported as 8.7-15.5% in the United States and 2.3-16.6% in Turkey (1,2). Of genitourinary tuberculosis cases, the epididymis is more frequently afflicted than the prostate and the testes (3). The condition is generally noticed by urology departments. The diagnosis and differentiation from malignancy is made by biopsy.

Case Report

A 62-year-old man was referred to our hospital with a history of cough and sputum which had lasted over 5 months, weight-loss, scrotal edema and frequent urination. In his past history, the patient had a peptic ulcer operation 2 years ago and an umbilical hernia operation 3 years ago. He was married and had 5 children. There was no history of tuberculosis in either the patient or his family. The patient smoked 60 packs of cigarettes per year and consumed 700 ml of alcohol per week. On physical examination, he had a blood pressure of 100/70 mmHg, a pulse of 68 beats/min, a respiratory rate of 20 breaths/min, and a body tempe-

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Figure 1. *Chest x-ray findings showing, reticulonodulary infiltration in the left apical area and enlargement of the left hilus.*

rature of 36.5°C. On auscultation, rare inspiratory rales in the lower lung field were the only positive findings. A 10 cm long incision scar on the median line of the abdomen, a right inguinal hernia, scrotal hyperemia and edema, edema in both testes and a nodule, 1 cm in diameter, detected in the rectal examination constituted the other clinical findings. The laboratory findings showed a Hb level of 10.6 g/dl and a Htc level of 34.4%. Leukocyte count was 6000/mm^3, and the blood sedimentation rate was 88 mm/hr. Serum biochemistry and routine urine analysis were normal. Urinary acid fast bacilli smear test and the culture, repeated three times, were negative. Sputum acid fast bacilli smear test was positive. Chest x-ray revealed a reticulonodular infiltration in the left apical area and enlargement of the left hilus (Figure 1). Thorax CT showed multiple small cavitary lesions especially in the upper left lobe apicoposterior segment, reticulonodulary infiltrations in the left lung upper lobe apicoposterior segment and in the left lung lower lobe superior segment (Figure 2). Scrotal ultrasonography (USG) revealed the presence of hypoechoic lesions in the left scrotal area. The left epididymis was thick and hypoechoic (epididymitis). Also, there

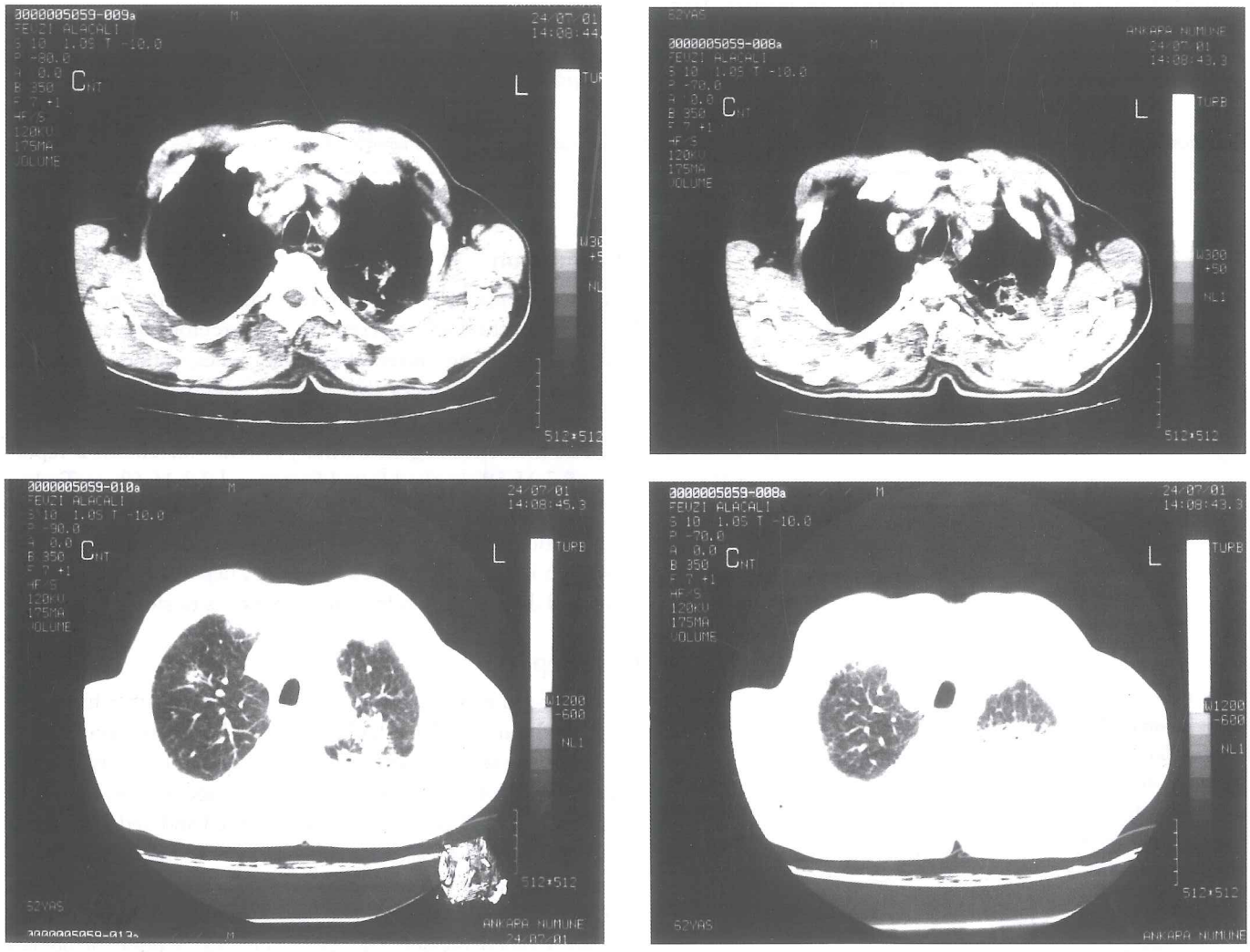

Figure 2. *Chest CT scan revealing multiple cavitary lesions and reticulonodulary infiltration.*

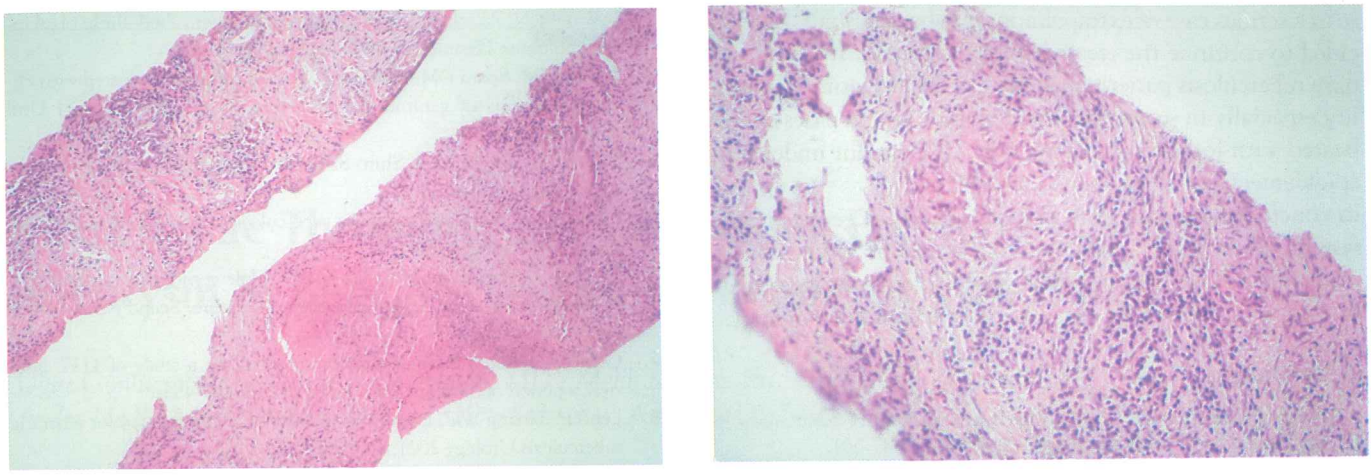

Figure 3. *Histopathological examination of the biopsies disclosed the granulomas with caseification necrosis.*

were extratesticular cysts bilaterally. A prostate biopsy was performed, and light microscopic examination of the specimens showed granulomas with large areas of caseification necrosis centrally, epitheloid histiocytes and caseous necrosis with Langhan's type giant cells (Figures 3,4). With these findings, a diagnosis of pulmonary tuberculosis with genitourinary system involvement was made and the patient was started on antituberculosis treatment with isoniazid, rifampin, ethambutol and morfozinamide. At the end of the first mounth of treatment, the sputum became negative for acid fast bacilli and the urinary symptoms regressed. After two months of this 4-drug regimen, treatment was continued for 9 months with isoniazid and rifampin. At the end of this period, the patient underwent an epididymectomy operation by the urology department to exclude malignancy. The patient was discharged with no clinical symptoms and in apparent good health.

Discussion

In genitourinary tuberculosis, the bacilli infect the kidneys by the hematogenous route. The epididymis, on the other hand, may be involved in three ways; hematogenous, through the lymphatic vessels or by retrograde canalicular spreading via the ductus deferens. Medlar et al reported autopsy findings on 44 epididymal tuberculosis patients with renal involvement (3). Testes involvement is almost always. secondary to epididymal tuberculosis. There are reports of testes tuberculosis cases by hematogenous spread, but this is very rare (4). Prostate tuberculosis is much less common than vesiculoseminal and epididymal tuberculosis and infection is transmitted to the prostate either by the downward spread of the bacilli from urinary organs, by direct intracanalicular spread from neighboring tuberculosis foci or through hematogenous transmission from other organs.

In our patient, the lungs, the testes, the epididymis and the prostate were all affected. However, urinary examination showed pyuria, but not hematuria. We therefore did not make more sophisticated investigations to show the renal involvement. We believe that in our patient epididymal tuberculosis developed by infection via the hematogenous route and that the prostate gland and the testes were infected also via the hematogenous route and also via the epididymis. Clinically, most genitourinary tuberculosis cases are diagnosed by local findings rather than systemic ones. In a study on 102 genitourinary tuberculosis patients, it has been reported that 37% had also pulmonary tuberculosis. In this series, the most frequent symptoms were dysuria, urinary frequency, hematuria, nocturia, flank pain, and edema and tenderness of the testes and of the epididymis (5). Our patient had both systemic and urinary symptoms.

Koyama reported that presence of tenderness/swelling of the testes or epididymis, hematuria, hydrocele, sterile pyuria and, along with these symptoms, a suspicion of tuberculosis in any part of the body should be considered suggestive of tuberculosis of the epididymis and of the testes (4).

Demonstration of the presence of the microorganisms in cultures from the urine or involved tissue are necessary for the definite diagnosis of genitourinary tuberculosis. In our patient, urinary acid fast bacilli tests and cultures for tuberculosis bacilli in the urine were negative. Genital involvement was confirmed by prostate needle biopsy.

Peterson et al reported the relevance of scrotal USG findings in the diagnosis of genital tuberculosis (6). According to this study, demonstration of heterogeneous and hypoechoic and enlarged epididymis, when together with hypoechoic lesions in the testes or with extratesticular calcifications are useful findings in the diagnosis of epididymal and testicular tuberculosis. The scrotal USG findings in our patient was in accordance with the results of this study.

Gow et al state that antituberculosis treatment for periods longer than 4 months is unnecessary in renal lesions because of sufficient vascular perfusion of the drugs in the renal tissue, their high concentration in the urine and their sufficient penetration to the cavitary lesions (7). Successful results have also been reported in prostate tuberculosis with 6 months of therapy (8). In our patient, we accepted the ca-

se as a serious case of extrapulmonary tuberculosis and we decided to continue the treatment for 9 months. In genitourinary tuberculosis patients, surgery can be a treatment modality especially in suspicion of malignancy and in cases complicated with local tissue destruction. Our patient underwent epididymectomy to exclude malignancy.

In conclusion, we can state that a diagnosis of genitourinary system tuberculosis should be considered in patients who continue to have urinary symptoms despite long term treatment and in differential diagnosis of suspected malignancy.

References

1. Rieder HL. Snider DE. Cauthen GM. Extrapulmonary tuberculosis in the United States. Am Rev Respir Dis 1990;141:347-351.
2. Tavusbay N, Aksel N, Çakan A. Ekstrapulmoner tüberkülozlu olgularımız. Solunum Hastalıkları 2000;11:294-298.
3. Medlar EM, Spain DM, Holliday RW. Post-mortem compared with clinical diagnosis of genitourinary tuberculosis in adult males. J Urol 1949;61:1078.
4. Koyama Y, Tomohiko I, Shiro S. Tuberculous epididymo-orchitis.Urology 1988;31:419-421.
5. Christensen WI. Genito-urinary tuberculosis:review of 102 cases. Medicine 1974;53:377-390.
6. Petersen L, Mommsen S, Pallisgaard G. Male genitourinary tuberculosis. Report of 12 cases and review of the literature. Scand J Urol Nephrol 1993;27(3):425-8.
7. Gow JG, Barbosa S.Genitourinary tuberculosis: a study of 1117 cases over a period of 34 years. Br J Urol 1984;56: 449-455.
8. Lee YH, Huang WC, Huang JS. Efficacy of chemotherapy for prostatic tuberculosis.Urology 2001;57:5:872-877.