Cutaneous Tuberculosis in a 27-Year-Old Man with Pott's Disease and Pleural Tuberculosis

Yirmi yedi Yaşında Erkek Olguda Cilt Tüberkülozu, Pott Hastalığı ve Plevra Tüberkülozu Birlikteliği

Elif Yılmazel Uçar[1], Leyla Sağlam[1], Pınar Polat[2], Nesrin Gürsan[3]

[1]Department of Chest Diseases, Faculty of Medicine, Atatürk University, Erzurum, Turkey

[2]Department of Radiological, Faculty of Medicine, Atatürk University, Erzurum, Turkey

[3]Department of Pathology, Faculty of Medicine, Atatürk University, Erzurum, Turkey

ABSTRACT

Tuberculosis is a common infectious disease worldwise. We described a tuberculous case in a 27-year-old male who had unusual dissemination. He was admitted to our hospital with complaints such as shortness of breath, back pain, and a skin lesion in the frontal chest. On admission, the chest X-ray showed pleural effussion on the left hemithorax, the CT scan of the thorax showed 10th and 11th vertebral destruction and paravertebral abcess formation with pleural effusion. The patient's skin biopsy result showed a caseous granulomatous disease. Then, a pleural biopsy was performed. It was reported as a caseous granulomatous disease as in the cutaneous biopsy result. Because of the two results no diagnostic approach was performed for vertebral lesions. The patient was diagnosed as an extrapulmonary organ tuberculosis (cutaneous, vertebral and pleural) and was started on anti-tuberculosis chemotherapy. He had no past history of tuberculosis or other debilitating diseases such as malignancy, alcoholism, diabetes, and immunodeficiency. We wished to share this interesting multiplorgans tuberculosis for clinical experience. *(Turk Toraks Derg 2012; 13: 130-3)*

Key words: Tuberculosis, extrapulmonary tuberculosis, unusual dissemination

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ÖZET

Tüberküloz, dünyada yaygın bir enfeksiyöz hastalık nedenidir. Biz, farklı bir yayılıma sahip 27 yaşında erkek bir tüberküloz olgusunu tanımladık. Hasta, göğüs duvarı ön yüzünde cilt lezyonu, sırt ağrısı ve nefes darlığı şikayetleriyle kliniğimize başvurdu. Çekilen P-A grafide sol hemitoraksda plevral effüzyon ve toraks tomografisinde plevral effüzyon ile birlikte 10. ve 11. torakal vertebralarda destrüksiyon ve paravertebral abse formasyonu gözlendi. Hasta, kazeifiye granulomatöz hastalık olarak raporlanan cilt biyopsi sonucuna sahipti. Plevra biyopsisi yapıldı. Sonuç, cilt biyopsi sonucu gibi kazeifiye granulomatöz hastalık olarak raporlandı. Bu iki sonuç nedeniyle vertebral lezyonlara tanısal girişimsel işlem yapılmadı. Vaka, ekstrapulmoner organ tüberkülozu (cilt, vertebra, plevra) olarak kabul edildi ve anti-tüberküloz kemoterapiye başlandı.Hastada, tüberküloz hikayesi veya diyabet, alkolizm ve malignite gibi zayıf düşüren hastalıklar ve immünyetmezlik yoktu. Bu nedenle, biz bu ilginç multiorgan tüberkülozu klinik tecrübe olarak paylaşmak istedik.
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Anahtar sözcükler: Tüberküloz, ekstrapulmoner tüberküloz, farklı yayılım

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INTRODUCTION

Tuberculosis is a systemic disease with widespread clinical manifestations. It can manifest itself in extra-pulmonary organs. Two of the most frequent locations are the spine and pleura. Cutaneous tuberculosis is a relativly rare manifestation of the disease.Cutaneous tuberculosis rarely occurs as the first finding of disseminated tuberculosis [1]. We presented a cutaneous tuberculosis case in a patient with Pott's disease and pleural tuberculosis, and the first symptoms were a skin lesion.

CASE REPORT

A 27-year- old man presented to the hospital because of shortness of breath, back pain, and a skin lesion in the frontal chest. The back pain of the patient had started 1 year earlier with a purplish 1 cm size swelling in frontal chest. The skin lesion had grown since 2 months and reached chickpea-size. Then he presented to the General Surgery Clinics and a biopsy was taken from the lesion. He reported that no treatment was given. When the patient was admitted to our clinic with shortness of breath, his complaint had started fifteen days earlier.

He was a former smoker (14 years). He is a farmer but he had worked as a building worker for two years.

Physical characteristics on examination were as follows: height, 165 cm; weight, 50 kg; body temperature, 37.2°C; pulse rate, 70/min; BP, 100/60 mm Hg; respiratory rate, 18/min; oxygen saturation, 95% while breath-

Address for Correspondence / Yazışma Adresi: Elif Yılmazel Uçar, Department of Chest Diseases, Faculty of Medicine, Atatürk University, Erzurum, Turkey Phone: +90 442 316 63 33 E-mail: eucar1979@yahoo.com

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ing room air. There was sensitivity on the 11th and 12th thoracal vertebrae on palpation. Percussion of the thorax revealed a decreased resonance over the left lung, where breath sounds were diminished on auscultation. He had only one BCG scar. The tuberculin test was applied to the patient and revealed an induration of 23 mm.

Laboratory test results showed; WBC, 7.200/mL; hemoglobin, 13.2 g/dL; platelets, 173.000/mL; erythrocyte sedimentation rate 60 mm/h; C-reactive protein, 3.8 mg/dL; HIV (-). There were no abnormal findings in liver and kidney functions and urine samples.

When the patient was admitted to our clinic, he had a CT scan of the thorax and thoracal vertebra MRI. CT scan of the thorax (Figure 1) and thoracal vertebra MRI (Figure 2, 3) demonstrated destruction and abcess formation of the 10th and 11th thoracic vertebra. Because of shortness of breath we took a chest X-ray. It showed a massive pleural effusion on the left hemithorax (Figure 4).

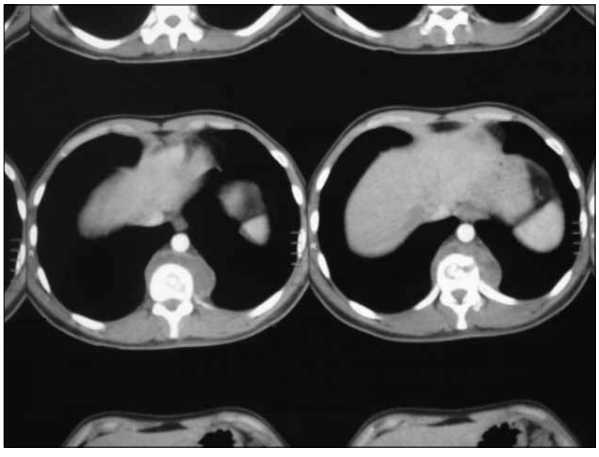


Figure 1. CT scan of thorax on admission. It showed 10 th and 11 th vertebral destruction and abscess formation

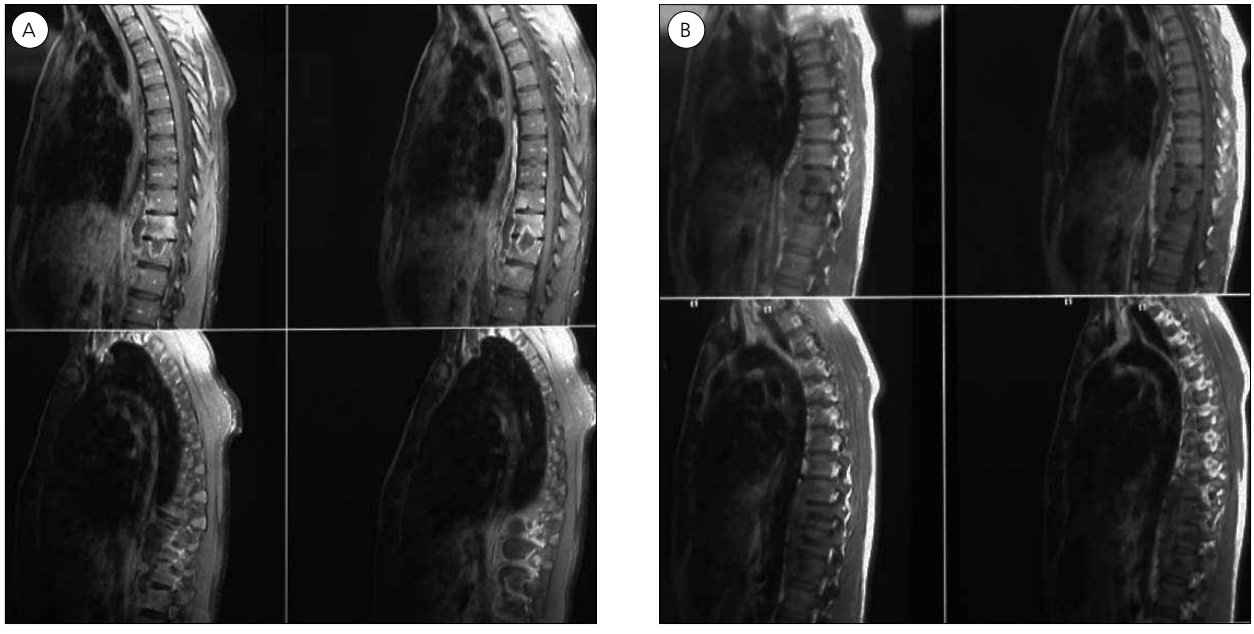


Figure 2. A)T1-weighted sagittal images showed 10th and 11th vertebral hipointens lesions and anterior paravertebral hipointens lesion B) The lesions showed peripheral contrast

So we took a CT scan of the thorax that showed the lesion of the 10th and 11th thoracic vertebra with pleural effusion (Figure 5). There was one month between the two CT scans of the thorax.

The patient was admitted to our clinic with a skin lesion biopsy result. It was reported as a caseous necrotic granulomatous formation. However we were unable to reach pathologic preparations. So, we carried out a thoracentesis. It was exudating and had lymphocyte infiltration. Pleura biopsy was performed for verification of the diagnosis. At the same time the ADA was sent. The ADA result was 120 u/L and biopsy result was reported as a caseous necrotic granulomatous formation (Figure 6). Because of the two results no diagnostic approach was performed for vertebral lesions.

DISCUSSION

Tuberculosis (TB) can spread to all (from head to toe) organs in the body and is associated with several common extrapulmonary syndromes. There were an estimated 11.1 million (range, 9.6-13.3 million) prevalent cases of TB in 2008 in the world [2]. We described a patient with cutaneous tuberculosis who had complaints of vertebral tuberculosis at the same time and then pleural tuberculosis developed. Cutaneous tuberculosis is an infrequent first sign of disseminated tuberculosis [3]. Secondary cutaneous tuberculosis from hematogenous spread may result in slow-growing soft tissue abscesses or nodules. Lesions are generally multiple in malnourished children or immunosuppressed adults.In our case, there was no immunsupression or malnutrition and his complaint has begun as a cutaneous lesion initially (Figure 7).

Generally, vertebra tuberculosis is a chronic and slowly progressive disease and has variable manifesta-

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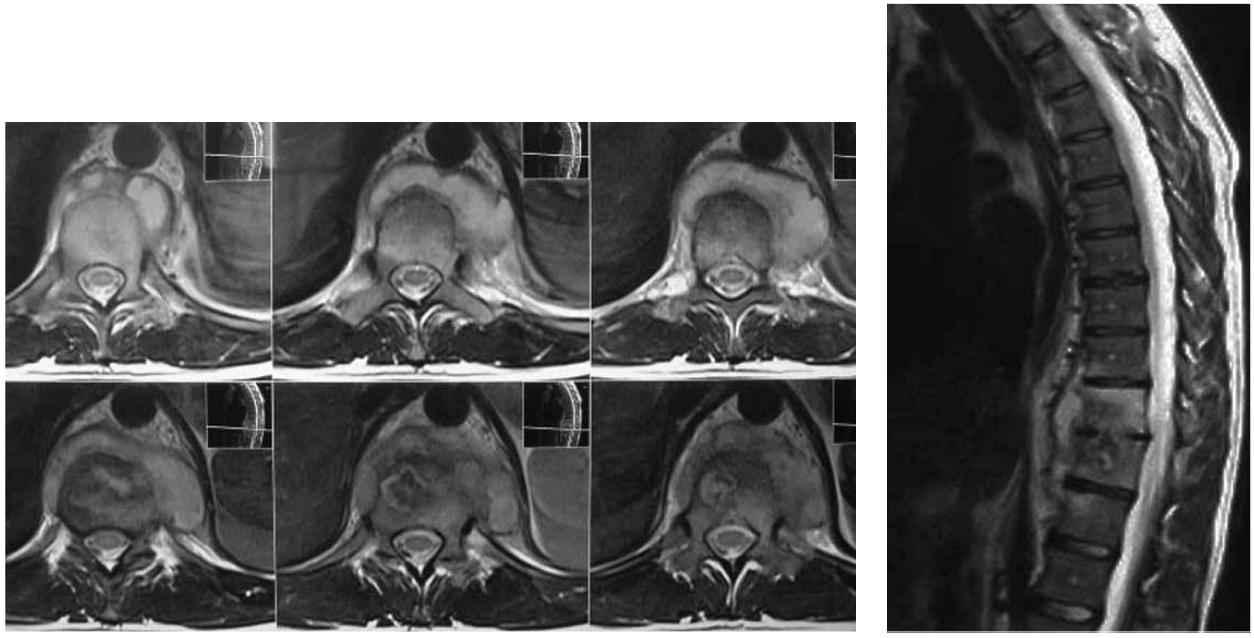


Figure 3. T2-weighted sagittal and axial images showed the lesions of vertebral corpus and anterior paravertebral space are hyperintense



Figure 4. Chest X-ray on admission. It showed pleural effusion on the left hemithorax

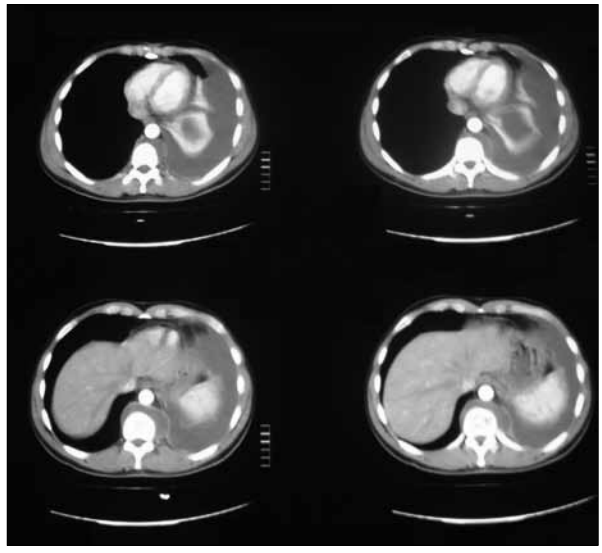


Figure 5. CT scan of the thorax after admission.It showed 10th and 11th vertebral destruction and abscess formation with pleural effusion

tions. The initial subjective symptoms may be relatively nonspecific, such as back pain, vertebral tenderness, fever, chilliness, and body weight loss. In more advanced cases, neurological symptoms and spinal deformity are present. In our case, he had back pain and vertebral tenderness. There were no neurological symptoms. His complaints had begun one year earlier.

Tuberculous pleural effusion is one of the most common forms of extrapulmonary tuberculosis. In our case, pleural effussion developed as a last form of extrapulmonary tuberculosis. In areas with high TB prevalence, pleural fluid adenosine deaminase (ADA) levels greater than 40 u/L argue strongly for TB. In our case, the ADA level was 120 u/L. It was supporting the diagnosis strongly.

In general, the patient's radiological findings provide more useful information. In vertebral tuberculosis, plain X-ray films are extremely insensitive for early detection of TB spondylitis. They do not detect vertebral involvement until at least 50% of a vertebra is destroyed [4]. The lower thoracic and lumbar spine are most commonly affected [5]. In our case, the 10th and 11th thoracic vertebrae was affected. CT and MRI provide a great advantage in the differential diagnosis of tuberculous spondylitis. It is reported that MRI has an improved contrast resolution for bone and soft tissues and the versatility of direct imaging in multiple planes [6]. MRI is more useful to demonsrate paravertebral abscess clearly and more useful in the differential diagnosis of vertebral osteomyelitis and disk space infection than CT [7]. In the present

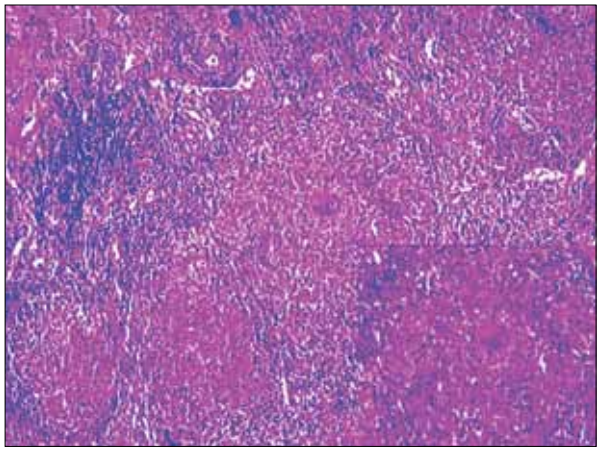


Figure 6. Granuloma structures and Langhans-type giant cell formation (hematoxylin and eosin, x100)



Figure 7. Lesion at frontal sternum after biopsy was taken

case, the MRI study was informative and useful for the diagnosis.

In the present patient, left pleural effusion appeared on admission and when a scan of the thorax CT was taken, it showed an abscess formation of vertebras with pleural effusion.

When the patient applied to our clinic, he had the results of a cutaneous biopsy. It was reported as a caseous granulomatous disease. For the verification of diagnosis, pleural biopsy was performed. It was reported as a caseous granulomatous disease. So, we accepted the patient as an extrapulmonary tuberculousis case and



Figure 8. Chest X-ray after fourth month of treatment

started anti-tuberculosis chemotherapy. The patient was evaluated after therapy (Figure 8).

In conclusion, to our knowledge it is the first case where cutaneous, pleural tuberculosis and vertebral tuberculosis (Pott's disease) are observed together. So, we wished to share this interesting case with the literature for clinical experience.

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