Primary Tuberculosis Osteomyelitis of Rib

Kaburganın Primer Tüberküloz Osteomiyeliti

Kaburga Tüberkülozu / Rib Tuberculosis

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Özet

Tüberküloz, dünyada gelişmekte olan ülkelerde mortalite ve morbitidenin büyük bir nedenidir. Kostanın primer tüberkülotik osteomiyeliti nadirdir. Anamnez ve fizik muayeneyi takiben radyolojik ve histolojik olarak incelemeler yapıldı. Kaburgada osteomiyelitin teyit edilmesinin ardından, etkilenmiş kaburga parçasının subperiostal olarak rezeksiyonu yapıldı. Kosta rezeksiyonunu, kosta tüberkülozu tedavisinde etkili yöntem olan bir yıl oral antitüberküloz tedavisi takip etti.

Anahtar Kelimeler

Teşhis; Kaburga Tüberkülozu; Cerrahi

Abstract

Tuberculosis has been a major cause of morbidity and mortality, significantly in the developing parts of the world. Primary tuberculotic osteomyelitis of the rib is rare. Following history and examination, radiological and histological investigations were performed. After confirming osteomyelitis of rib, excision of the sinus tract along with subperiosteal resection of the affected part of the rib was done. Resection of affected part of the followed by oral antituberculosis drug for one year is an effective modality of treatment for rib tuberculosis.

Keywords

Diagnosis; Rib Tuberculosis; Surgery

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Introduction

Tuberculosis is rarely located on ribs [1]. Chest pain, subcutanous mass are among clinical symptoms due to fractured ribs. Radiological findings help us to locate the lesion and to plan the procedure, but they are nonspecific and nondiagnostic. Definitive diagnosis can be made by surgical excision. We present a case of rib tuberculosis which was presented only with chest pain.

Case Report

A 23-year-old woman presented with a 3-month history of pleuritis right-sided chest pain. On chest examination showed tenderness and paint o palpation over the posterior part of the right seventh rib. Findings on auscultation of the lungs were normal. The results of a complete blood count and other laboratory tests performed on admission were normal. The patient was immunized against tuberculosis. A chest radiograph revealed a 3-cm destructive lesion in the posterior aspect of the right seventh rib. A CT scan of the chest revealed destruction of the right seventh rib and the presence of an adjacent 3-cm soft-tissue mass [Figure 1]. The operative findings confirmed erosion of the rib. A bone scan showed increased uptake at this rib. Surgery was performed with extrapleural drainage and excision biopsy from the bone and adjacent soft tissue. Resected specimens were subjected to pathological examination and primary tuberculous osteomyelitis was confirmed [Figure 2]. Culture results of the specimens confirmed a Mycobacterium tuberculosis infection. A specimen for culture (aerobic, anaerobic an fungal) was obtained from the around of fractured mass. Bacteriological culture was negative. No acid- fast bacilli were seen on the material. There was no primary tuberculosis focus and any history of contact with tuberculosis patients. Oral antituberculosis drugs were given to patient for a period of one year (rifampicin in doses of 10–15 mg/kg, isoniazid (INH) 5mg/kg, ethambutol 15 mg/kg, andpyrazinamide 25 mg/kg of body weight for initial two months followed by a ten-month therapy of two drugs rifampicin and INH in the same doses). The patient follow up three months was comfortable and there was no pain on the area.



Figure 1. CT scan of the chest of a patient with rib tuberculosis shows destructive lesion at the right seventh rib and a 2-cm soft tissue mass overlying the lesion.

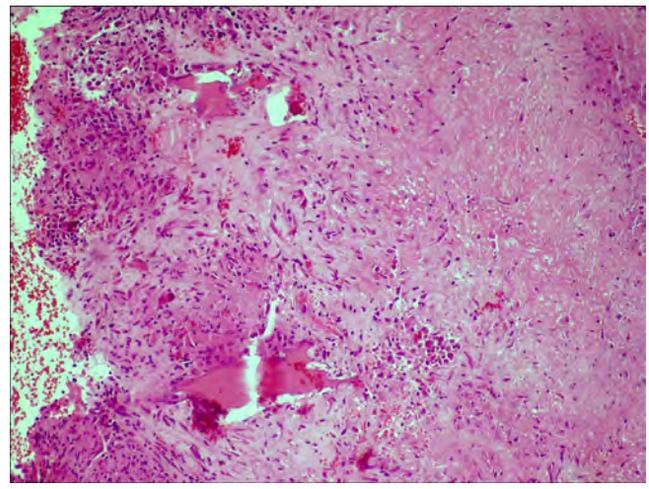


Figure 2. The bone spicules destructed with chronic granulomatous inflammation and caseification necrosis (H&E staining ×400).

Discussion

Chest wall and rib tuberculosis is very rare [1]. The presentation of this case was a progressive enlargement of surrounding tissue and destruction of the rib. The most common pathogenesis of rib involvement in tuberculosis is considered as hematogenous spread from the lungs [2]. The findings in our case illustrate that the diagnosis of tuberculosis should be considered in a patient with a destructive rib lesion from an area of endemicity. The diagnosis is often delayed until the osseous destructions are seen on the chest radiogram and computed tomography of palpable chest wall masses develop [3].Radiological findings are nonspecific. Osteolytic and osteoblastic features are seen. A plain chest radiograph is taken as part of the routine examination if you suspect the tuberculosis. The looking of apical lung lesion that is suggested tuberculosis can provide diagnostic clues in the differential diagnosis of

suspected lesion. We presented a case of rib tuberculosis in a patient with only pleuritic chest pain and developed osseous destructions. CT is useful in demonstrating bony sclerosis and fractured. Tuberculosis may mimic many disease processes and affect any anatomical structures. In developing countries where tuberculosis is common the diagnosis can be made easily by evaluating clinical course, history and laboratory examinations. Biopsy with fine needle aspiration is made for diagnostic purpose and acid-fast bacilli was seen on smear and tubercle bacilli can be seen in culture. However rate of diagnosis of fine needle aspiration and biopsy is generally low.

Most patients were relatively young, free of underlying disease, and lived in a country in which tuberculosis is endemic. The disease presented indolently with rib pain and swelling. Extrasternal disease is detectable in less. Diagnosis was based on histologic examination of infected tissues and mycobacterial cultures. Most patients recovered after surgical removed and combination drug therapy.

Conclusion

We also recommend surgical excision of the affected rib, as it ensures the removal of the diseased area, enables histopatho-

logical confirmation, tissues which aids in better distribution of the anti-tubercular drugs.

Competing Interests

The authors declare that they have no competing interests.

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