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RESEARCH ARTICLE

A CASE REPORT OF STERNAL TUBERCULOSIS

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Abstract

The incidence of sternum tuberculosis is a rare entity. The treatment modality involves anti tubercular drug therapy & timely planned surgical intervention as and when required, here we report a case of sternum tuberculosis.

INTRODUCTION

Tuberculosis osteomyelitis of the sternum is rare and the literature concerning it is sparse [1, 2, 3]. It accounts for less than 1% of cases of musculoskeletal tuberculosis [4]. Diagnosis could be delayed because of unusual presentation and unfamiliarity. MRI may be useful in early stages and in atypical presentations. Tuli and Sinha reported 14 cases of affection of sternum in a series of 980 cases of osteoarticulartuberculosis (1.5%) [5]

CASE REPORT

A 25 year old male patient came with chief complains of low back ache since 3 months. Pain and swelling developed on chest over manubrium since 6 weeks [Fig.1.2]with evening rise of temperature and weight loss. On examination, Swelling was 6x5cm in size 1cm raised approximately. No local rise of temperature. Tenderness present over sternal region and on palpation it was soft boggy, mobile, non-fluctuant. Skin is normal in colour with no sinus or discharge. No cervical lymphadenopathy. There was no significant past history. He had elevated ESR of I hour 30mm and 2 hour 64mm. C-reactive protein was elevated to 96mg/dl. Mantoux test was positive 10mm induration. MRI revealed collection of 38x20mm anteriorly and 40x14mm posteriorly in the sternum suggestive of Koch's etiology [Fig.3.]. Z-N staining and culture were negative. There was no pulmonary lesion and an HIV test negative. Anti-Tubercular treatment was started empirically. Repeated aspirations were done due to swelling for five times. Swelling subsided gradually by Anti-tuberular treatment.[Fig..4]

DISCUSSION

Isolated tuberculous osteomyelitis without joint involvement occurs in ribs, metacarpals, metatarsals , calcaneum, pelvis, skull & sternum. Infrequently it can occur in large tubular bones. The incidence is 2% to 3% of all cases of osteoarticular tuberculosis [5, 6].lesions of the manubrium sterni are uncommon. Tuberculous infection settles in the sternum by a homogenous spread from a lesion elsewhere.

Tuberculosis is endemic in India. In a series of 980 patients with osteoarticular tuberculosis 14 (1.4%) had sternal lesions , although advanced imaging modalities such as MRIwere not used in these patients[7], nearly 1/3rd of these patients had detectable tuberculosis lesions in lungs. In a more recent study by Davies et al [8] only two cases of tuberculosis of the sternum were found in the 4000 cases.

The tuberculosis of sternum might present with sternal and sternoclavicular pain, painful swelling, cold abscess and parasternal sinus. As the swelling is superficial diagnosis is relatively early and easily confirmed by aspiration and histopathology and culture. Nearly one third of cases of Tuli and Sinha had a detectable lesion in other parts of skeletal or in lungs [5].

The clinical features of the disease are subtle and often difficult to detect in early stages. Radiological changes lag behind clinical symptoms. A high degree of suspicion is therefore, necessary to make early diagnosis [9, 10, 11].

We found that MRI was able to detect bone marrow edema in the sternum and soft tissue involvement even in the presence of normal radiograph. MRI and CT of the chest as well as the sternum are helpful in detecting pulmonary or mediastinal involvement, which may not be seen on plain chest radiographs [10, 11].

Bacteriological diagnosis of tuberculosis is possible by studying the aspirate by Z-N staining, regular culture, or by BACTEC technique and polymerase chain reaction. Negative bacteriology at first does not exclude tuberculosis. Sometimes more than one effort at culture may be needed. Surgeons should, however, be aware that negative microbiology does not exclude a diagnosis of M. tuberculosis [12].

Several treatment modalities are available: Anti TB drugs or in addition aspiration of the abscess, open drainage of cold abscess and removal of granulation tissue, curettage of bony lesion,partial resection of the sternum, and partial resection with reconstruction. In general treatment of tuberculosis of the manubrium by aspiration and adequate anti tubercular drugs gives satisfactory results.Surgical treatment is rarely justified for a doubtful diagnosis, non-responsive case or for removal of a large sequestrum [5, 13]. Antibiotic ofloxacin has been found effective for M. fortuitum infection of thesternotomywounds [14].

We would therefore recommend conservative treatment with adequate antituberculous drugs as the treatment of choice in sternum tuberculosis. A larger study with longer follow up would be necessary to clearly establish the indications for surgery in this condition.

Figure.1:Clinical Picture

Figure.2:Clinical Picture

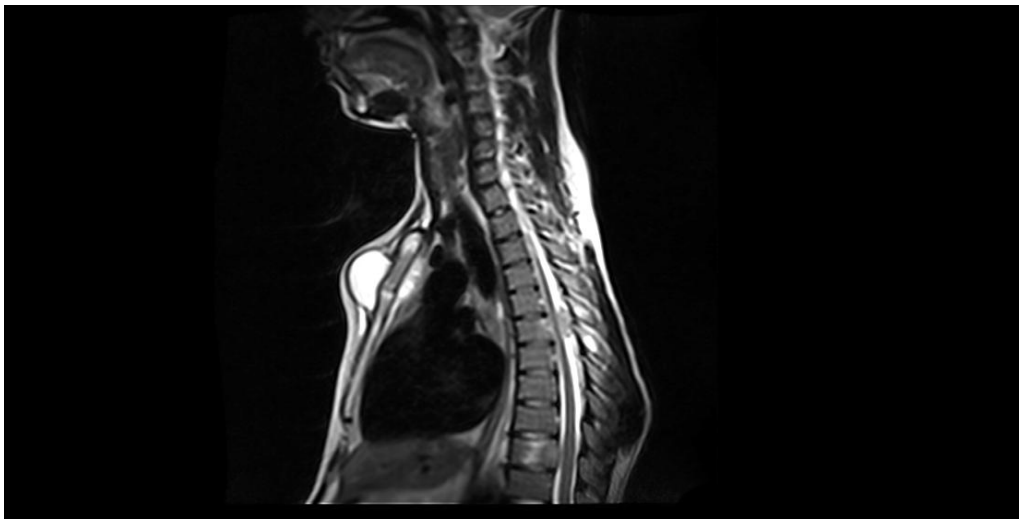

Figure.3 Mri scan showing sternal tuberculosis abscess.

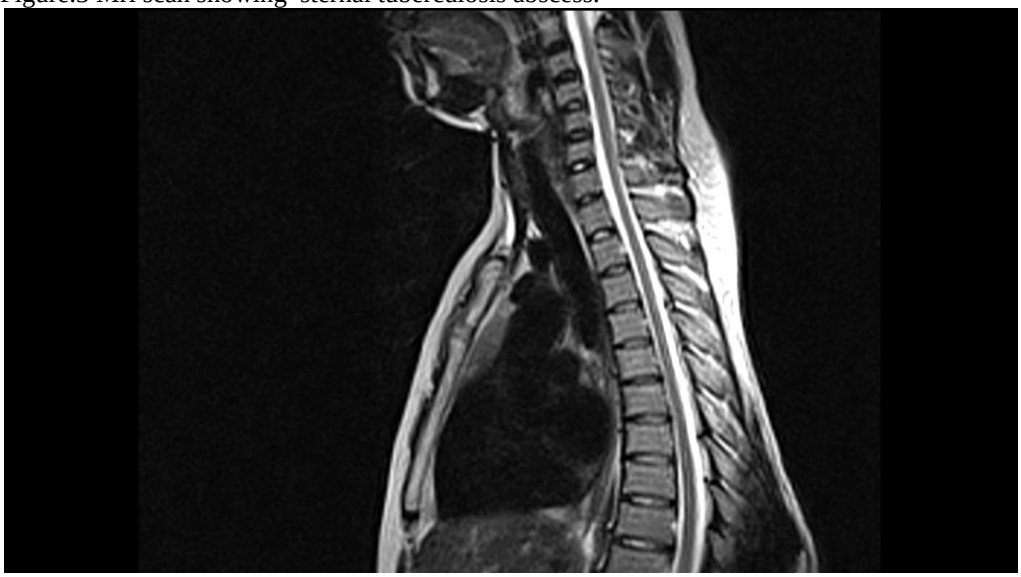

Figure.4. Mri scan showing complete resolution of abscess after 3 months treatment with ATT.

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