TUBERCULOSIS OSTEOMYELITIS OF MANDIBLE WITH PATHOLOGICAL FRACTURES

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Summary

A rare case of tuberculous osteomyelitis mandible with pathological fracture has been reported. The problems in diagnosis and principles of management have been highlighted. Accurate, repair of mucosal tear and longer period of immobilization are necessary.

Introduction

Tuberculous osteomyelitis of the mandible leading to pathological fracture is a rare entity. To the best of our knowledge literature shows only six cases of tuberculous osteomylitis mandible (Khosla 1930, Meng 1940, Sachs & Eisanbud 1977, Stuteville, & Hulswit 1948 and Taylor and Booth 1964). Only one of them had pathological fracture (Garber et al. 1978). However there are no details available regarding the specific management of pathological fracture in tuberculous osteomyelitis of mandible. We are reporting a case of tuberculous, ostemyelitis of mandible with pathological fracture highlighting the points in favour of diagnosis and line of management.

Case Report

A twelve year old boy represented with complaints of discharging sinus in left submandibular region for 2 months. There was no history of trauma. Sinus was curretted once outside before the patient presented to us without much benefit. Patient had lost weight, had anorexia and lassitude, but there were no other systemic manifestations.

Clinically he was poorly nourished boy. There was a firm soft tissue swelling over the whole extent of the left mandible and submandibular region with a discharging sinus. Intraoral examination revealed absence of left lower molars with receding lower jaw and a mucosal ulcer over the same region. This was communicating to the skin sinus. There was malocclusion and fracture of left body of the mandible in the region of molars. Multiple left submandibular lymphnodes were palpable, which were firm, tender and matted.

X-ray showed fracture of mandible with multiple small sequestri at the lower border of mandible (Figs. 1A & 1B). Xray chest showed calcification (Fig. 2) in both lung

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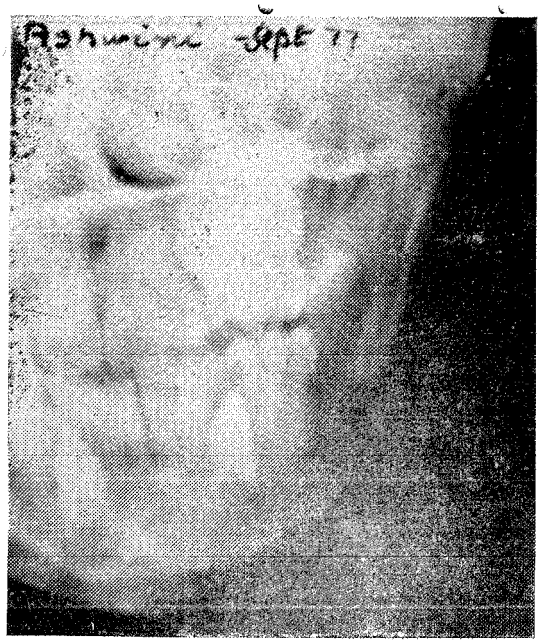

Fig. No. 1A. P. A. view of x-ray shows fracture of mandible with small multiple sequestri.

Fig. No. 1 B. Lateral oblique view of mandible showing loss of 1st and 2nd molar teeth and loss of bone substance-there is no periosteal reaction or sclerosis.

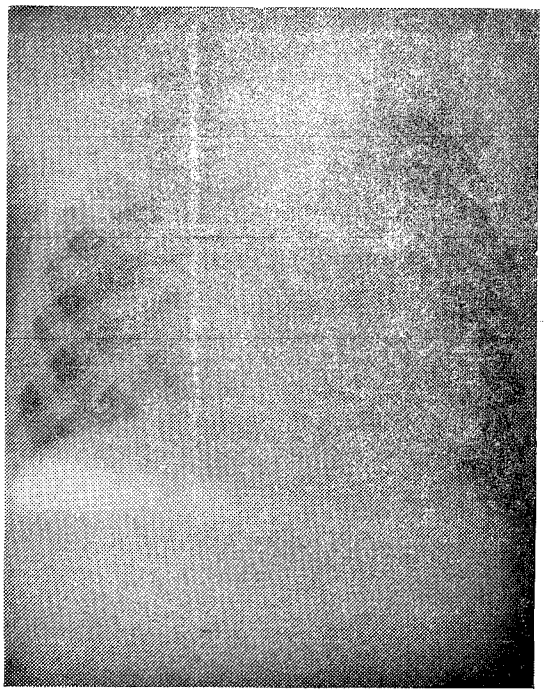

Fig. No. 2. X-ray chest shows calcification in both lung fields.

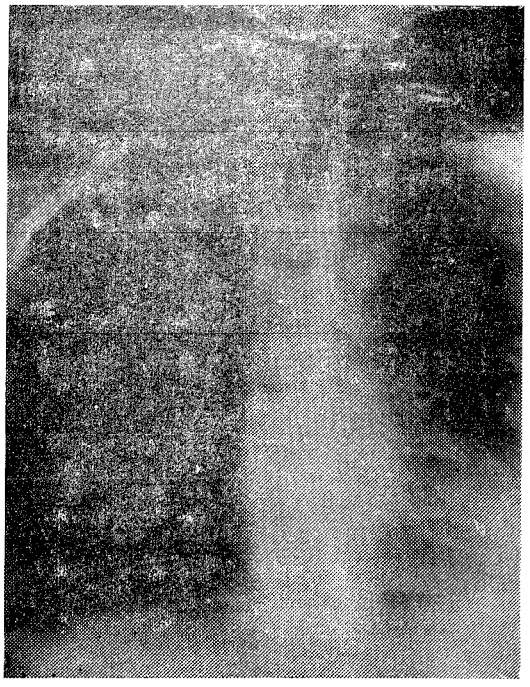

Fig. No. 3. Penetrating view of chest showing paravertebral abscess.

fields. The sinus was scraped, sequestri removed and intermaxillary fixation applied. The pus grew staphylococcus aureus. Sensitive to co-trimoxazole which was started.

Four weeks later patient presented with increased discharge from the sinus and a swelling in left mammary region. Penetrating X-ray chest (Fig. 3) showed paravertebral abscess. Aspiration from this was caseous and this showed acid fast bacilli on microscopy.

At this stage scraping from the submandibular sinus also revealed acid fast bacilli. Hence antitubercular treatment was instituted.

After a week of antitubercular therapy the sinus persisted. In view of the mucosal ulceration the secondary wires were removed. The ulcer was excised and mucosal defect was repaired. Secondary wires were reapplied. A week later sinus healed soft tissue swelling also reduced. Patient was sent home on antitubercular drugs and intermaxillary fixation.

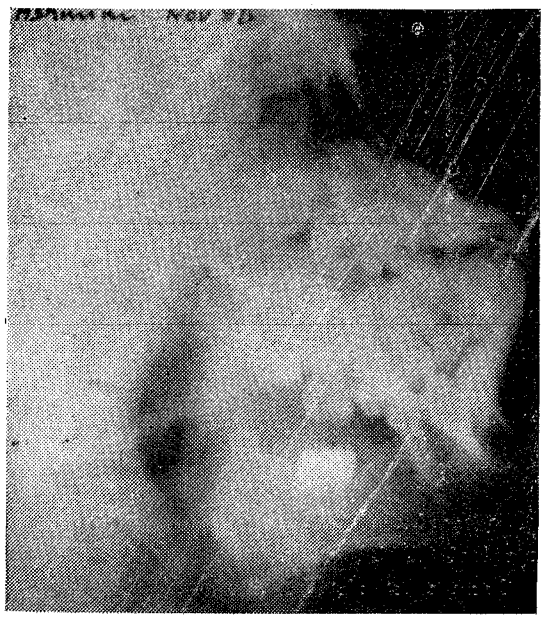

Fig. 4. Complete healing of pathological fracture 3rd mollarstill not errupted.

After four weeks of immobilization and antitubercular therapy clinical union was not satisfactory, hence intermaxillary fixation was continued for further two weeks till the fracture site became stable. Thereafter gradual mobilization was encouraged. Radiological bony union could be demonstrated only in subsequent x-rays (Fig. 4). However the shortening of horizontal ramus gave a facial asymmetry which becomes more obvious when the boy opens mouth. The child has now been followed up for 4 years and is now doing well.

Discussion

Tuberculosis of mandible leading to pathological fracture is a rare entity. A report from Banaras Hindu University reviewing cases of osteoarticular tuberculosis revealed only 5 lesions in skull and facial bones out of 1074 lesions (Tuli 1981). The high vascularity of facial bones probably makes facial bones less prone to tuberculous osteomyelitis (Tuli 1981). Clinical infection in bone usually occurs due to haematogenous spread from focci elsewhere in the body (Tuli 1981). Poor oral hygiene, apical abscess, poor general health, inadequate immunological defence following massive exposure could be the probable reason in this case.

Once organism gets its hold, destruction of bone occurs subsequently (Garber 1978), Khosla 1930 and Meng 1940).

When a chronic sinus adjacent to the mandible fails to heal with the appropriate antibiotic and the fracture fails to unite with adequate immobilization the possibility of tuberculosis must be considered in developing countries.

Retrospective studies of x-ray mandible of this patient revealed (1) Not only pathological fracture but actual loss of bone substance, (2) Minimal periosteal reaction, (3) Multiple small sequestri, (4) Absence of sclerosis. These are features against traumatic fracture of pyogenic osteomyelitis, suggesting the tuberculous osteomyelitis. X-ray chest, bacteriological examination of discharge, histological examination of lpmphnodes involved may point towards the diagnosis.

The principles of management of tuberculous osteomyelitis of mandible with pathological fracture include reduction of fracture fragments and immobilization apart from general supportive therapy. As these fractures are usually compound intra orally, as in this case, repair of mucosal defect is one of the important steps in management. This prevents continuous contamination of fracture site with saliva and intraoral commensals.

Another point to be emphasized is the longer period of immobilization required in these cases. The reported case needed 10 weeks of inter maxillary fixation. The duration of immobilization should be guided by clinical stability of the fracture. Radiological evidence of bony union, as in any fracture of mandible, takes longer time.

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