Tubercular osteomyelitis of the mandible in a 10 years old female: A case report

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Abstract
A 10-years-old female presented with a 5-month history of a gradually increasing swelling of the left side of her face. A panoramic radiographic view of the mandible showed diffuse radiolucency in the ramus of the mandible. The computed tomography (CT) scan revealed destruction of the mandibular bone. The biopsy was consistent with tubercular osteomyelitis. Antitubercular therapy resulted in a marked reduction of the size of the swelling over a 18-month period.

Keywords: Ostearticular Tuberculosis, Mandible, Antitubercular treatment

Introduction
Osteoarticular tuberculosis accounts for 1–2% of all the types of bone tuberculosis. Bone tuberculosis forms about 10% of extrapulmonary tuberculosis, of which 50% occur in the spine[1]. Tuberculosis of the flat bones of the skull is uncommon and that of the mandible is especially rare as it contains less cancellous bone [2]. Most of the cases which occur are due to a tuberculous focus elsewhere in the body. Tuberculosis of the mandible is a very rare phenomenon [3–6]. The diagnosis as such is often overlooked despite a high prevalence of the disease in high-burden countries like India. This study reports a case of tuberculosis of the mandible in a 10-year-old female.

Case Report
A 10-year-old female patient came to our OPD for left-sided mandibular facial swelling. The swelling had started insidiously 5 months earlier with a painless increase in its size. The patient denied any history of tooth extraction or any oral trauma, and there was no personal or family history of any chronic ailment. Clinical examination revealed a thinly built young female with a 3 to 4 cm sized swelling on the left side of her face in the mandibular region that was firm to hard in consistency, non-fluctuant, mildly tender with normal overlying skin. Examination of the oral cavity showed erythematous buccal mucosa. The rest of the general physical and systemic examination was normal. Her blood investigation was normal except ESR, which was 45 mm in the first hour. A skiagram of the chest was normal. Gram’s smear and Ziehl–Neelsen staining of the sputum was negative for any organisms. A 5-TU tuberculin skin test was positive with an induration of 20 mm after 48 h. A panoramic view radiograph of the mandible showed diffuse radiolucency in the ramus of the mandible. Computerized tomography of the mandible revealed pronounced rarefaction and destruction of bone with a large mass measuring 3 to 4 cm in retromandibular areas of breakdown and bony fragments. A true cut biopsy was undertaken which showed chronic inflammatory cells with granulation tissue admixed with dead bone and focal epithelioid cell granulomas and Langerhans giant cells, consistent with tubercular osteomyelitis. She was put on antitubercular therapy for 18 months and got relieved.

Discussion
Tubercular infection of the oral tissues can be primary or secondary. Primary lesions develop when tuberculosis bacilli are directly inoculated into the oral tissues of a person who has not acquired immunity to the disease. These frequently involve gingiva, tooth extraction sockets and buccal folds. Secondary infection of oral tissues can result from either hematogenous or lymphatic spread or from auto inoculation by infected sputum and direct extensions from neighboring...
structures. Most of the reported cases of mandibular tuberculosis are secondary to focus elsewhere in the body and primary tuberculosis of the mandible is a rare occurrence [3–5]. The rarity of mandibular tuberculosis has been attributed to the paucity of cancellous bone in the mandible with the angle and the alveolar regions being affected most frequently [6]. The infected sputum or in some cases infected milk serves as a direct source of infection or the tubercular bacilli gain access through a break in the oral mucosa which can be either in the form of opened tooth socket because of extraction or a mucosal abrasions or gingival margin or perforation of an erupting tooth [7]. Other routes for the occurrence of infection can be by extension from a nearby soft tissue lesion which involves the underlying bone. Hematogenous seeding has also been suggested [8]. In this case, there was no history of dental extraction or any trauma to the oral cavity, and possibly the site of entry might have been gingivitis as the patient’s dental hygiene was not maintained. Since mandibular tuberculosis is rare, clinicians frequently confuse this with a pyogenic abscess and if a discharging sinus is present, it can be misdiagnosed as actinomycosis. Treatment of mandibular tuberculosis is with anti-tubercular therapy as per the WHO index TB guidelines [10]. This case emphasizes the consideration of tuberculosis in the differential diagnosis of a mandibular swelling and osteomyelitis of the jaw.

References