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CHRONIC SUPPURATIVE OSTEOMYELITIS OF MANDIBULAR CONDYLE- A RARE CASE REPORT

Maxillofacial Surgery

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ABSTRACT

Osteomyelitis is defined as inflammation of the bone marrow with a tendency to progression and involves the adjacent cortical plates and periosteal tissues. It develops in the jaws after a chronic odontogenic infection or from other reasons such as trauma, incomplete management of fracture, following irradiation of the Mandible. It is more common in Mandible than maxilla. However, involvement of Mandibular condyle is very rare. Hereby we report a case of chronic suppurative osteomyelitis of condyle in a 16 years old female treated with course of antibiotics followed by Sequestrectomy, condylectomy and subsequent follow up.

KEYWORDS

Osteomyelitis, Condyle, Sequestrectomy

INTRODUCTION:

Osteomyelitis is truly an infection of bone. [1] In head and neck region Osteomyelitis more predominantly occurs in mandible, whereas in Maxilla it is less frequent due to its vascularity [2]. The infection begins at the medullary portion of the bone and extends to include haversian system and periosteum.The clinical manifestation of osteomyelitis depends on the virulence of the infecting organisms, host resistance, and the reaction of the periosteum to inflammation [2].

The odontogenic infection is the most cause of osteomyelitis and dentate part of mandible is generally involved. It rarely involves the condyle and it can be haematogenous origin, spread from adjacent structures or by direct inoculation [3]. The systemic factors include diabetes, anaemia, malnutrition, malignancies, immunocompromised status, Tuberculosis[3].

Chronic osteomyelitis may be suppuration with formation of abscess or fistula and sequestration of underlying bone [4]. Severe complications like pathological fracture and nerve deficit also reported in chronic suppurative osteomyelitis.(CSO).

Case Report:

A 16 year old female reported to our department with a complaint of swelling and pus discharge in left pre auricular region (figure 1) for duration of 2 months. Pain was mild and intermittent. History of blunt trauma to the left side of the face by assault before 1 year and she had not undergone any treatment. Later she developed swelling on the left side of face after 8 months and underwent extraction of left mandibular second molar.

Patient developed swelling again after 2 months on same side with extra oral pus discharge in the left preauricular region for which incision and drainage were done previous elsewhere. Following the procedure, pain decreased but the draining sinus and dull continuous pain persistent. As the condition did not improve, the patient presented to our department for definitive treatment.She was moderately built and nourished, and afebrile at the time of examination.

TMJ examination reveals trismus, restricted lateral movements along with deviated mouth opening towards left side. On extra oral examination, a swelling of size 3 x 4 cm extending from the left pre-auricular region up to the lower border of mandible was seen. The swelling was diffuse, soft and tender on palpation. Paraesthesia was also evident. A discharging sinus tract was present 2cm anterior to the tragus. A thorough intra oral examination revealed no odontogenic source of infection and dental occlusion was not affected.

Figure1. Discharging sinus in the left pre auricular region.

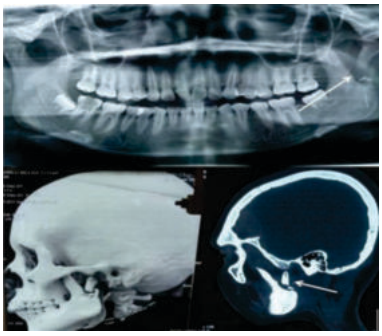

Figure 2. OPG and CT reveals a fracture of Condylar process in sub condylar region with a sequestra

Routine blood investigation revealed of increased lymphocyte count. Staphylococcus was isolated on pus culture. The patient was screened for suspected tuberculosis with chest x-ray and Mantoux test and all proved to be negative. An otolaryngology consultation ruled out in suspect of any ear infection. OPG reveals of radiolucent lesion in the sub condyle region and resorbing condylar head.

CT and CBCT were carried out which demonstrated a fracture of condylar process in sub condylar region with a sequestra measuring of 8x8mm and a destruction of posterior ramus region with poorly defined border (figure 2). By correlating the radiological and clinical finding it was provisionally diagnosed as chronic suppurative osteomyelitis of left condyle.

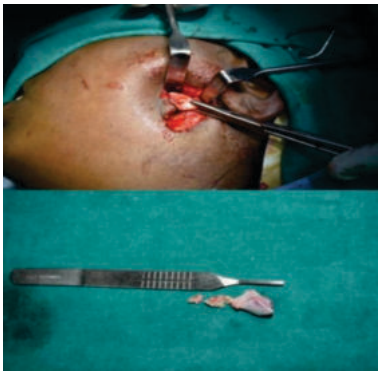

Figure3.Sequestrectomy and debridement of left Condyle

Figure 4. Postoperative OPG and 3 months follow up

Intravenous antibiotics were administered according to culture sensitivity test prior to surgery. The infected condyle was approached through retromandibular approach. Sequestrectomy and debridement was done under general anaesthesia (figure 3). The entire sinus tract was excised and wound closure done. The specimen was sent for histopathological examination and diagnosed as chronic suppurative osteomyelitis. Post- operative care includes appropriate intravenous antibiotics followed by oral dosage of antibiotics for 30 days with adequate hydration and rest. The wound healed uneventfully without any postoperative complication and paraesthesia resolved completely after 3 months (figure 4). Occlusion was maintained with mild deviation of jaw towards the left side which is still persistent.

DISCUSSION:

Osteomyelitis is true infection of bone characterised by inflammatory process that include necrosis of mineralised and marrow tissues, suppuration, sclerosis, resorption and hyperplasia.[1]Chronic systemic diseases, compromised host defences and alteration in vascularity of the bone are the pre disposing factors to osteomyelitis. The focus of the article is the discussion of chronic suppurative osteomyelitis. Chronic is considered to be of at least 1 month duration to represent either lack of response to initial therapy or an over powering of the host defence.[5] The case assessed in this study fit this definition, referred after the initial failure to respond to primary care. Chronic osteomyelitis may be suppurative or non-suppurative. In Chronic osteomyelitis, clinical expression of deep pain, malaise, fever, intraoral or extraoral fistula formation, sequestra and possible pathological fracture may be anticipated.[2] Exposure or exfoliation of infected bone fragments, lymphadenopathy and indurated swelling often associated with chronic osteomyelitis.

Despite condyle being distant site for odontogenic origin, the common causes are infected 3rd molar, infection follows tooth extraction, and contagious spread of infection from ear (malignant otitis externa). [3]Tuberculosis was another cause for condylar osteomyelitis (2%). Diagnosis was made by Montaux test or positive staining of AFB and histological examination. [6] In our case Montaux test found to be negative.

In a recent investigations in microbiology of osteomyelitis have demonstrated the primary bacteria of concern are streptococci and gram negative rods. [7] However, in some cases of osteomyelitis, no bacteria were found due to previous antibiotic therapy.

The available imaging modalities for evaluation of osteomyelitis are orthopantomographic radiograph, computer tomography (CT), magnetic resonance imaging(MRI), and radionuclide imaging (scintigraphy). The common findings in osteomyelitis involving condyle were loss of trabecular structure, lytic lesion erosive changes and various degrees of condylar destruction.[3]

Sequestrectomy is the removal of infected devitalized bone. Saucerization is performed in conjugation with sequestrectomy. [8] Chronic osteomyelitis may require resection with bony margin and prepared for immediate or delayed reconstruction. The resection margins should be in the viable bone 1 to 2cm from the infected site. In long standing refractory osteomyelitis hyperbaric oxygen therapy may be recommended as a supporting therapy. [9]

CONCLUSION:

Although the knowledge of osteomyelitis and advanced imaging techniques have increased, suppurative osteomyelitis remains as a surgical disease and surgical treatment remains as a definitive method of treatment with favorable clinical/radiological results and postoperative function .

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