AN UNUSUAL CASE OF CHRONIC SUPPURATIVE OSTEOMYLITIS WITH ALL FOUR CANINES IMPACTED

A Case Report

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ABSTRACT

The term osteomyelitis encompasses a wide group of infectious diseases involving the disease of the bone and/or bone marrow further extending to periosteum. It is a disturbing disease and involves a series of causative host and pathogen factors. The primary cause of this disease is usually taught to be microbiological especially Staphylococcus aureus and Staphylococcus epidermis. The diagnosis of osteomyelitis is strenuous, mainly in the early stages, and this disease is at all times complex to treat. Eradicating microorganisms and recuperating circulation in the regions involved, in the early stages have been the mainly employed treatment modalities. The case presented here is of chronic osteomyelitis with an extraoral draining sinus. Surgical debridement and oral antibiotics were considered as the treatment of choice.

Key words: Chronic suppurative osteomyelitis, coronoidectomy, debridement, sequestrectomy, localized osteomyelitis, osteomyelitis of mandible, furunculosis, boils, abscess, staphylococcosis

INTRODUCTION:

Osteomyelitis is the inflammation of bone and bone marrow that develops in the jaws after a chronic odontogenic infection or a variety of other reasons[1,2]. Advances in the field of anesthesia, antibiotic therapy, preventive and restorative dentistry, as well as the availability of component medical and dental care have reduced the incidence of the disease. Chronic osteomyelitis may show a suppurative course with abscess or fistula formation and sequestration at some stage. Several reports have concluded that chronic suppurative osteomyelitis (CSO) can be treated successfully by a combination of antimicrobial therapy with surgery, either sequestrectomy or decortication of the affected bone. The aim of surgery is to eliminate all of the infected and necrotic bony tissue and, if incomplete, surgical debridement may lead to persistence of the osteomyelitis[1].

CASE REPORT:

A 55 year old male patient came to our department of oral medicine and radiology of Ahmedabad Dental College And Hospital with chief complaint of draining sinus in relation to submental region since 3 years. Dental history of all missing canine since childhood. Patient had undergone extraction in relation to 31,32 and 41 3 years back and exfoliation of 42 6 months ago[figure1]. Patient had habit of snuff rubbing since 40 years 5 times a day. During clinical examination it was found that a single round of around 1 cm in diameter draining sinus was seen on submental region from midline of chin upto parasymphysis region on left side mediolaterally and from submental region upto 1 cm below anterio posteriorly.There was yellow fluid (pus) like discharge seen on submental region with surface is appearing crusted. There was localised rise in temprature near the submental region on palpation. Intraorally there was no abnormality seen ,however all 4 canines were missing. Submeantal and submandibular lymph nodes were palpable, tender, mobile, and soft to firm. Cervical chain of lymphnodes were non palpable. Chronic suppurative osteomylitis was our provisional diagnosis based on clinical examination .On radiological investigation the panoramic view [Figure2] showed a large irregular shaped radiolucent area of around 2-3 cm seen at the center of mandible from mesial of 35 upto mesial of 44 which is extending upto the lower border of mandible. There were also 2 tooth like structure seen in relation to apex of root of 45 and another horizontally impacted in relation to lower border of mandible on left side. There were also 2 tooth like structure seen overlaping the root of 12 and 22 respectively. In the mandibular region near the impacted canines surrounding bone is showing more radiopecity suggestive of surrounding bone reaction. On further radiological investigation that is CBCT [Figure3] it was found that there was a horizontally impacted mesiodistally placed 33, there was also a huge bony defect seen in relation

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buccal and lingual border of mandible leading to pathological fracture. There was also a bony defect seen in the inferior border of mandible. Panoramic reconstruted image was showing a discontinuation in relation to lower cortex of mandible near symphysis. region.33 was mesio-distally angulated and 43 vertically impacted.

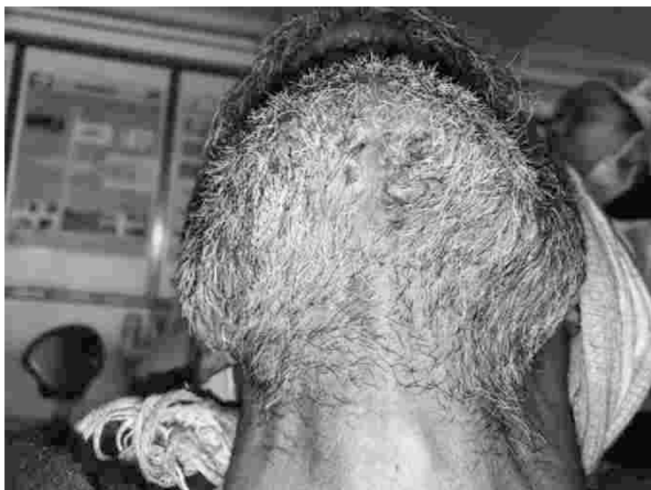

Figure1: Extraoral photograph showing draining sinus in relation to sub mental region.

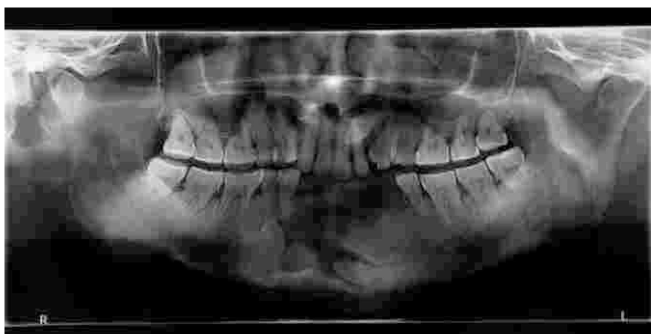

Figure2: OPG showing a huge bony defect at the center of mandible with all 4 impacted canines.

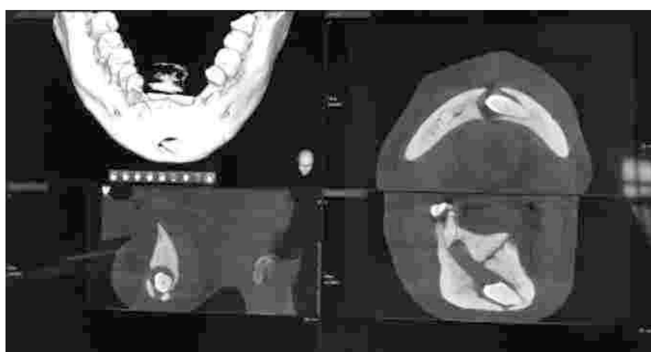

Figure3 CBCT image showing pathological fracture in symphysis region and impacted 33 and 43.

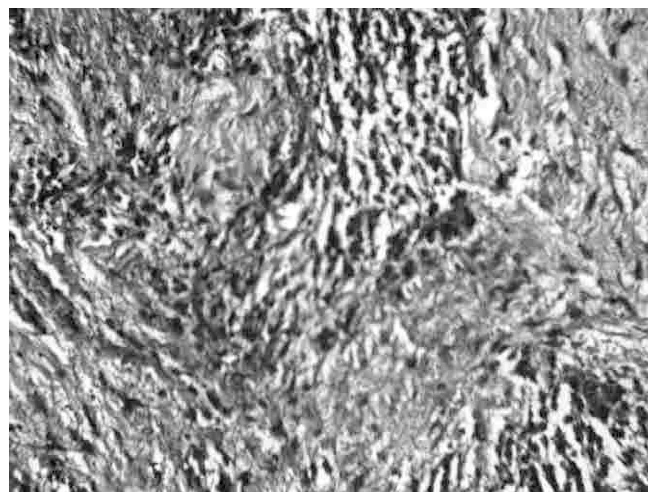

Figure4: Histopathological section

Histopathological examination revealed that the section showed granulation tissue exhibiting chronic inflamatory cells in large number bundles of collagen fibers and blood vessels [figure 4].[3]

DISCUSSION

Osteomyelitis is an inflammatory condition of the bone that involves the medullary cavity and has a tendency to progress along this space and involve the adjacent cortex, periosteum and soft tissue.[4] It is more common in the mandible than in the maxilla because of the dense, poorly vascularized cortical plates and the single blood supply from the inferior alveolar neurovascular bundle[5]. The primary cause of the chronic osteomyelitis is usually microbiologic and results from an odontogenic infection, post-extraction complications, inadequate removal of necrotic bone, early termination of antibiotic therapy, inappropriate selection of antibiotics, diagnostic failure, trauma, inadequate treatment for fracture or irradiation to the mandible. The most common bacteriologic results reported to the treating clinicians were mixed oral flora or mixed anaerobic flora.The distribution of osteomyelitis in the jaws dominated by cases that occurred in the mandible, with the highest frequency found in the angle and the body regions. In chronic secondary osteomyelitis, the clinical findings usually are limited to fistulas, induration of soft tissue and thickened or wooden character to the affected area, with pain and tenderness on palpation. In cases of recurrence, symptoms often occurred immediately adjacent to the decorticate area. Culture, bone biopsy,

conventional radiography, radioisotope bone scanning, laser Doppler flowmetry, computerized tomography and magnetic resonance imaging are used to diagnose chronic osteomyelitis. Management entailed a course of antibiotics in combination with surgical debridement. In chronic suppurative osteomyelitis of the mandible, several authors recognize resistance to therapy as an infrequent but possible problem. Topazian recommends to continue post-surgical treatment for 2–4 months after the resolution of the symptoms where as Bartkowski et al . use intravenous therapy for 10–24 days. This is consistent with the published protocols of Van Merkesteyn et al . It has been suggested that antibiotic therapy combined with surgical intervention is effective in the treatment of chronic suppurative osteomyelitis. Some reports have also advocated the use of hyperbaric oxygen in the treatment of this condition, especially in the irradiated mandible. For osteomylitis older age is more common but as far the history of snuff rubbing was there intraosseous carcinoma was also amongst one of the diffrential diagnosis and it was important to be ruled out. In this case we have kept chronic suppurative osteomylitis and not feruncleitis because there was not only involvement skin but also bone when seen in OPG.[6] With this we also found that there was a huge bony involvent with all 4 impacted canines and radiolucency with surrounding bone reaction. Actinomycosis was also kept as differential diagnosis and not provisional because when viewed macroscopically there were no sulphur granules visible.[7] Intraosseous carcinoma was also ruled out as there was surrounding bone reaction seen near the impacted canines irt 33,43 which is suggestive of inflamatory condition however it was important to completely rule out carcinomatous involvement which was done with the help of histopathological examination.[8,9]

CONCLUSION

Proper diagnosis and treatment planning is of utmost importance to cure any disease.[6] Considering clinical presentation and course of the disease with successive previous treatment failure in this case it was very important to diagnose the condition clinically ,radiographically and histopathologically. With proper diagnosis successful treatement was delivered and further relapse of the condition was avoided.[10,1]

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