

**A CASE REPORT OF CHRONIC SUPPURATIVE OSTEOMYELITIS OF MANDIBLE****<sup>1</sup>Dr. Joseph Johny, <sup>2</sup>Dr. Athira Vijayan P. V., <sup>3</sup>Dr. Indukrishna M. A., <sup>4</sup>Dr. Krishnaprasad, <sup>5</sup>Dr. Shafnas P. P.**<sup>1</sup>Associate Professor, Head of Department Oral Medicine and Radiology Sree Anjaneya Institute of Dental Science Calicut Kerala, India.<sup>2,3,4,5</sup>Dental House Surgeon, Department of Oral Medicine and Radiology Sree Anjaneya Institute of Dental Sciences Calicut Kerala, India.**\*Corresponding Author: Dr. Joseph Johny**

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**ABSTRACT**

Osteomyelitis is an inflammation of the bone and bone marrow that is most commonly caused by a staphylococcus aureus infection. It usually begins as an infection of medullary cavity rapidly involved the harvesion system and quickly extends to the periosteum of the area. It develops in the jaw after a chronic odontogenic infection or for a variety of other reasons such as trauma, inadequate treatment of fracture or irradiation to mandible. When antimicrobial agents or drainage prove unsuccessful, acute osteomyelitis may be become chronic.<sup>[1]</sup> Here we present a case report of 56 year old male patient with osteomyelitis of mandible.

**KEYWORDS:** Osteomyelitis, Sequestrum, Moth eaten appearance.**INTRODUCTION**

The word Osteomyelitis originates from the ancient greek word osteon (bone) and muelinos (marrow) and means infection of medullary portion of bone. It can be classified as acute, sub acute, or chronic depending on the clinical presentation. The decline in prevalence can be attributed to the increase availability of antibiotics and progressively higher standards of oral and dental health.<sup>[2]</sup> Osteomyelitis is unique jaw pathology with typical clinical and radiological presentation, but still it is challenging condition to diagnose and treat.

**CASE REPORT**

A 56 year old male patient reported to the department of Oral medicine and Radiology with chief complaint of swelling in lower right side of face below the chin since 2 months. It was initially small in size, which gradually increased to the present size, without any periods of remissions or exacerbations, which was noticed following tooth extraction. Swelling was associated with mild parasthesia of right lower half of face and not associated with pain or any other symptoms. Patient was hypertensive and was not under medication.

On examination extra orally a swelling was seen on right side of face roughly spherical in shape measuring 1.5 cm in diameter extending 2 cm below parasymphysis region and 2 cm distal to midline, surrounded by erythematous skin. (Figure 1) and was soft and non tender on palpation.

Intra orally an edentulous lower arch bicortical plate expansion extending from 41 to 45 measuring 2.5 to 1 cm with a sinus opening in the region of 44 was noticed. (Figure2) and was bony hard in consistency and non tender. Based on history and clinical findings we came to a provisional diagnosis of osteomyelitis.

On investigation intra oral periapical radiograph (Figure 3) and panoramic radiograph (Figure 4) shows multiple radiolucent areas in relation to 42, 43, and 44 with sequestrum suggestive of moth eaten appearance and also shows horizontally impacted 48. Occlusal view cross sectional (Figure 5) shows bicortical expansion. Radiographically a diagnosis of chronic suppurative osteomyelitis was given.

On aspiration white purulent discharge was obtained. An excisional biopsy specimen of mandibular arch with a size of 1x0.8x0.8 cm with brownish colour and firm in consistency was sent for histopathological examination, which revealed bone marrow edema, bony spicules, necrosis and acute inflammatory cells. (Figure 6) Based on histopathological findings we came to a final diagnosis of chronic suppurative osteomyelitis. Curettage of the lesion was done followed by intravenous antibiotics. Patient was reviewed after 3 months for check up.

**DISCUSSION**

Osteomyelitis is an inflammation of bone and bone marrow that develops in the jaws usually after a chronic infection. It may be classified as acute, sub acute or

chronic, depending on the clinical presentation.<sup>[3]</sup> Osteomyelitis can also be classified as: chronic or acute suppurative osteomyelitis, chronic, focal or diffuse sclerosing osteomyelitis and Garre's osteomyelitis. The chronic diffuse sclerosing osteomyelitis has been mainly described in the mandible, which is characterized by a long history of recurrent pain and inflammation without suppuration; although the chronic suppurative osteomyelitis is less frequent, it usually arises as a complication of tooth extraction and generally occurs in adults.<sup>[4]</sup>

The principal reason of chronic osteomyelitis is frequently microbiological odontogenic infection, complications of post extraction, unsatisfactory amputation of necrotic bone, early cessation of antibiotic therapy, inappropriate choice of antibiotics, poor diagnosis of the condition, trauma, and insufficient management for fracture or irradiation to the mandible.<sup>[5]</sup>

The typical age of presentation is in the fifties to the sixties, with males more likely to be affected. The commonest site is the posterior body of the mandible.

Suppurative osteomyelitis can involve all three components of bone: Periosteum, cortex and marrow. In established suppurative osteomyelitis, symptoms include deep pain, malaise, fever and anorexia. Within 10-14 days after onset, teeth in the involved area begin to loosen and become sensitive to percussion. Pus exudes around the gingival sulcus or through mucosal and cutaneous fistulae.<sup>[6]</sup> Sometimes they also present with neuropalsy, pathological fracture.<sup>[1]</sup>

Our patient reported with mild parasthesia of right lower half of the face with a sinus opening.

Osteomyelitis is more common in the mandible (angle and body) than in the maxilla. This slightly occurs due to mandible's increased density and less vascularized cortical plates. Also, in contrast to the maxilla, the mandible has only a single blood supply source from the inferior alveolar neurovascular bundle.<sup>[7]</sup>

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.<sup>[8]</sup>

Radiographs will reveal a poorly defined radiolucency (moth eaten appearance) within the body of mandible extending to involve the lower border of mandible in severe cases. Evidence of Sequestrum/ involucrum may be found. Excessive destruction of bone may cause pathologic fracture.<sup>[9]</sup>

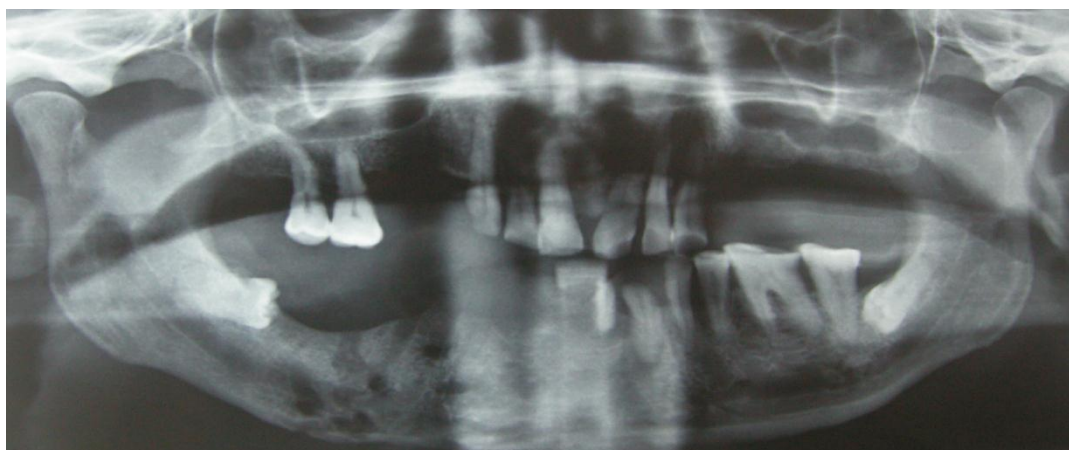
Treatment depends on the type of osteomyelitis, acute suppurative osteomyelitis usually respond to antibiotic therapy, in the case of chronic osteomyelitis, in addition to antibiotic therapy, it is necessary to complement the treatment with corticotomies, curettage, removal of bone sequestration or even large resections.<sup>[4]</sup>



**Figure 1: Extra oral view showing a swelling on right side of face roughly spherical in shape measuring 1.5 cm in diameter.**



**Figure 2- Intra oral view showing an edentulous lower arch with bicortical plate expansion extending from 41 to 45 with a sinus opening in the region of 44.**



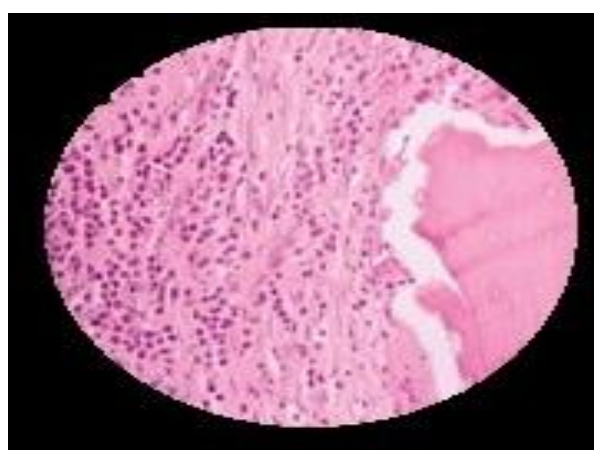
**Figure 3 -** Periapical radiograph showing multiple radiolucent areas in relation to 42, 43, and 44 with sequestrum suggestive of moth eaten appearance.



**Figure 4 –** Panoramic radiograph showing multiple radiolucent areas in relation to 42, 43, and 44 with sequestrum suggestive of moth eaten appearance and also shows horizontally impacted 48.



**Figure 5 –** Occlusal view showing buccal cortical plate expansion with moth eaten appearance.



**Figure 6-Histopathological section showing bone marrow edema, bony spicules, necrosis and acute inflammatory cells are seen.**

## CONCLUSION

Osteomyelitis is known to be a profound bone infection with momentous morbidity and higher rate of recurrences. This requires ideal treatment plan for the management of this condition with medications mainly aimed at targeting the microbiological specimen identified. this patient should compulsorily be on regular follow up so as to keep a check over the prognosis and aid in the prevention of further complications.

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