

Localized Osteomyelitis of the mandible: A case report

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Abstract

Osteomyelitis of the jaws is a rare condition which usually occurs in medically -compromised patients both locally and generally. A case is presented with the alveolar bone necrosis. The treatment procedures and the outcomes are discussed in this article.

Keywords: Localized osteomyelitis, Osteomyelitis of mandible.

Introduction

Osteomyelitis (OM) of the jaws is now defined by the presence of exposed bone in the mouth, which fails to heal after appropriate intervention.⁽¹⁾ Osteomyelitis can be defined as an inflammatory condition of the bone, which begins as an infection of the medullary cavity, rapidly involves the Haversian systems, and extends to involve the periosteum of the affected area.⁽²⁾ It is a well-known entity in the historical literature where in the absence of antibiotics, compound fractures of long bones frequently failed to heal. Such cases are no longer part of modern medical experiences. In the twenty-first century osteomyelitis presents as a sub-chronic condition and is more commonly associated with debilitated, immunosuppressed or medically compromised patients and the pattern of events does not pose a diagnostic dilemma.⁽³⁾

The incidence of osteomyelitis has dramatically decreased since the introduction of antibiotics. Moreover, OM of the head and neck skeleton is rare, particularly in the jaws.⁽⁴⁾ Osteomyelitis is diagnosed on the basis of patient history, clinical examinations, and the surgical and radiographic findings.

The most commonly used definitions of OM are an inflammatory reaction within the bone caused by bacterial invasion or merely an inflammatory process of the bone, both cortical and cancellous. In the mandible, the most common sites are the body, followed by the symphysis, angle, ascending ramus and condyle.⁽⁵⁾ OM is very rarely seen in the maxilla.⁽⁶⁾ This article reports a case of a healthy patient who developed osteomyelitis of the lower jaw following root canal therapy.

Case Report

A 45 year old male patient came with the chief complain of pain in left lower back tooth region since fifteen days. The medical history of patient was a contributing factor. The medical history revealed that the patient was medically compromised, and had undergone chemotherapy and was on medication since many years. A detailed medical and dental history was recorded.

On clinical examination, a bony growth was visible on the left lingual side of the mandible in lower back tooth region (Fig.1). There was spontaneous mandibular pain and tenderness. Three months before, the tooth had undergone root canal treatment. The bone surrounding the tooth had a moth-eaten appearance and there was evidence of sequestrum formation on conventional x-rays. (Fig.2)

With the clinical diagnosis of osteomyelitis, the patient was instructed to rinse with 0.2% chlorhexidine digluconate for 30 s. The local anaesthesia was injected, the exposed bone was removed and complementary curettage and irrigation was performed. (Fig. 3).

The postoperative period was uneventful and the patient was discharged. The patient was symptom-free in the first postoperative follow-up one month after the surgery. The patient refused to undergo postoperative control x-rays.



Fig. 1



Fig. 2



Fig. 3



Fig. 4(Post- Operative)

Discussion

Osteomyelitis of the jaws is a rare condition, which has been associated with multiple systemic diseases. The aetiology is unknown and theories include bacterial infection (dental or bacteraemia from distant foci), vascular deficiency (localised endarteritis), autoimmune disease or trauma.⁽⁷⁾ The medications linked to osteomyelitis are steroids, chemotherapeutic agents, and bisphosphonates.⁽⁴⁾

Treatment of osteomyelitis of the jaws includes elimination of the cause, incision and drainage, sequestrectomy, saucerization, decortication, resection of the jaw, antibiotics and hyperbaric oxygen.⁽⁸⁾

The jaws are unique from other bones of the body in that the presence of teeth creates a direct pathway for infectious and inflammatory agents to invade bone by means of caries and periodontal disease. Oral bone appears to be particularly resistant to infection despite exposure to oral flora. This further reiterates the rarity of the mandible experiencing osteomyelitis.⁽⁹⁾

In the present case treatment plan included removal of the localized necrotic bone. Antibiotic therapy was instituted prior to the surgery and continued postoperatively to prevent post-surgical infection. Post-treatment evaluations showed complete healing.

Conclusion

Osteomyelitis remains a rare entity in medically fit and well individuals. The clinical features in these patients are not typical of those seen in the traditional debilitated patient and can pose a diagnostic problem. Osteomyelitis should always be considered in the presence of intense and poorly controlled pain following injury to the jaw.

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