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Case Report

Actinomycotic osteomyelitis of the mandible

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ABSTRACT

Actinomycetes are prominent organism among the normal microbial flora of the oral cavity. However, actinomycotic infection presenting as osteomyelitis in the jaws is relatively rare. This article presents a rare case of osteomyelitis of the mandible arising from an extraction site which was diagnosed as actinomycotic in origin based on the histopathological investigations. Patient responded well to prompt systemic antibiotics and local surgical measures. Early management helped in preventing complications. © 2016 Published by Elsevier Ltd on behalf of Asian AOMS, ASOMP, JSOP, JSOMS, JSOM, and JAMI. ☆

1. Introduction

Actinomycosis is an uncommon, chronic bacterial infection that induces both suppurative and granulomatous inflammation. Cervico-facial involvement is characterized by localized swelling with suppuration, abscess formation, tissue fibrosis, and sinus drainage. The occurrence of actinomycotic infection in the head and neck region is quite uncommon. But when it occurs, mandible is the common location, accounting for 53.6% of the cervicofacial actinomycosis [1]. The diagnosis of actinomycosis is easily missed out because it may mimic neoplasia.

This article presents a case of osteomyelitis of the mandible arising from an extraction site which was diagnosed as actinomycotic in origin based on the histopathological investigations. Patient responded well to prompt systemic antibiotics and local surgical measures. Early management helped in preventing complications.

2. Case report

A 49-year-old female patient presented to the out-patient department with a complaint of continuous mild dull aching pain and swelling of lower right back jaw since seven months. Patient gave a history of extraction of lower right back tooth seven months back due to pain, but no relief from pain after extraction. At the time of presentation, a diffuse swelling measuring 2 × 1 cm was noted along the right lower one third of the face (Fig. 1). The swelling appeared normal in color, tender on palpation, bony hard in consistency, with no bleeding or discharge on palpation.

On intra oral examination, a partly healed extraction socket was seen in the lower left second molar region with a moderate pus discharge (Fig. 2). A mild vestibular obliteration was evident with expansion of the buccal cortical plates. The adjacent tooth and vestibular areas were tender on palpation.

A mandibular cross-sectional occlusal radiograph was obtained which showed bucco-lingual expansion of the cortical plate of the right mandibular posterior region. Panoramic radiograph demonstrated an ill-defined radiolucency measuring 3.5 × 2 cm of mandibular right posterior region (Fig. 3). The radiolucency extended from the distal root of tooth 46 and almost centered in the body of mandible. An irregular radiopacity was present along the mesial aspect of the lesion. The lower border of the mandible appeared intact and no root resorption or displacement of tooth noted. Based on history, clinical examination and radiographic eval-

☆ AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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Fig. 1. Diffuse swelling along the right lower one third of the face.



Fig. 2. Extraction socket of lower left second molar region with pus discharge.

uation, a differential diagnosis of chronic suppurative osteomyelitis and tuberculous osteomyelitis were considered.

Patient was placed under broad spectrum antibiotics orally for two weeks. Under local anesthesia, curettage and saucerization were performed until fresh bleeding points were obtained (Figs. 4 and 5). The inferior alveolar nerve was teased carefully from the lesion during the curettage. The patient was discharged with sutures, medication and post-operative instructions. The bony fragments were subjected to histopathological evaluation and revealed parakeratinized stratified squamous epithelium with underlying fibrovascular connective tissue. The connective tissue showed

clumps of basophilic bacterial colonies suggestive of actinomycosis, surrounded by inflammatory cells predominantly of neutrophils (Fig. 6). Area of necrotic bone was also seen. Features were conclusive of actinomycotic osteomyelitis.

Patient was recalled after one week, the surgical site showed significant healing. Patient was further reviewed weekly for clinical and radiographic assessment for a period of three weeks.

3. Discussion

Actinomycosis is a sub-acute to chronic bacterial infection caused by filamentous, gram-positive, non-acid fast, anaerobic to microaerophilic bacteria [2]. It is characterized by contiguous spread, suppurative and granulomatous inflammation, and formation of multiple abscesses and sinus tracts that may discharge sulfur granules [3]. Cervico-facial actinomycosis is the most common form and is caused by *Actinomyces israeli*. Actinomycetes are prominent organism among the normal microbial flora of the oral cavity. These organisms are not virulent and require a break in

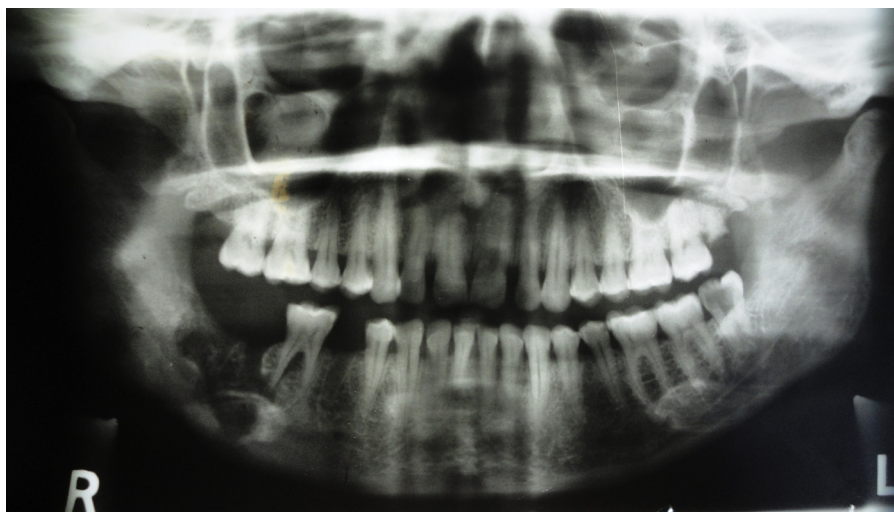


Fig. 3. OPG demonstrating an ill-defined radiolucency of mandibular right posterior region.

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