Osteomyelitis of the Mandible Secondary to Impacted Third Molar

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ABSTRACT

Odontogenic infections resulting in osteomyelitis of the mandible are common. However, osteomyelitis of the coronoid process as a direct consequence of third molar infection is rare. The following report describes such a case in an 18-year-old female as a severe complication following third molar removal. Despite aggressive antimicrobial therapy and indicated treatment approach following microbiologic study, a severe osteomyelitis was present, clinically and radiographically. Finally, hemimandibulectomy, including exarticulation, was indicated to manage this severe complication.

Keywords: Osteomyelitis, Coronoid process, Odontogenic infection, Hyperbaric oxygen.

INTRODUCTION

Osteomyelitis is decreasing in prevalence due to broad spectrum antibiotic treatment; however, it still remains a challenging clinical entity in developing countries and lower socioeconomic areas. The present article reports on an unfortunate consequence of mandibular osteomyelitis in a healthy female after removal of an impacted third molar.

CASE REPORT

An 18-year-old female complained of pain, difficulty in opening her mouth, and swelling on the mandibular right third molar region with onset 2 months prior. Physical extraoral examination showed a right facial swelling and paresthesia of lower lip. Medical history revealed extraction of right lower third molar 3 months back. After initial antibiotic treatment, the patient responded well, again after 2 weeks there is increased swelling in the right perimandibular region and difficulty on mouth opening. Subsequently, several recurrent abscess formations appeared intraorally. Several studies, including panoramic radiography, computed tomography, bacterial culture, laboratory test and histologic examination were performed. Radiographic examination revealed extensive involvement of body, ramus including coronoid and condylar process (Figs 1 and 2). Recurrent abscess formations were treated with intensive therapy involving antibiotics, surgical debridement of the affected region and hyperbaric oxygen. A severe osteomyelitis was diagnosed clinically and radiographically, despite immediate microbiologic study to determine specific antibiotics and prompt surgical debridement with hyperbaric oxygen therapy. Finally, hemimandibulectomy, including exarticulation, was performed. After this aggressive surgery, the symptoms disappeared and laboratory tests showed a normal blood count with a quick recovery by the patient.

DISCUSSION

Osteomyelitis has been known to appear secondary to a dental infection or secondary to a surgical procedure in a young healthy patient. Osteomyelitis of the body, ramus and condyle developing as a result of odontogenic infections have been reported by Thoma. In 1961, Killey and Kay discussed the submasseteric abscess as a severe complication following dental infection and the idea of a low-grade osteomyelitis developing as a result of the continued presence of a subperiosteal abscess compressed...
Osteomyelitis of the craniofacial skeleton is a complex problem requiring rapid and thorough diagnosis and treatment. Failure to do so can result in a host of complications and consequences. The cause of this disease is multifactorial and its presentation varies. Whatever the cause may be, complete resolution of the infection must be obtained to decrease the morbidity and mortality of the patient. This clinical report describes a young, healthy patient, who without any of the known risk factors, presented resistance to combined treatment for mandibular osteomyelitis. The outcome of this case highlights the fact that despite advances in modern medicine, cases of resistance to therapy are still encountered and further research is required.

REFERENCES