

Osteomyelitis of the Mandibular Condyle and Coronoid Process

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ABSTRACT

Osteomyelitis is an inflammatory disease of the bone that begins as an infection of the medullary cavity, involving the Haversian system and spreading towards cortical bone and the periosteum. In the maxillofacial region, osteomyelitis of the mandibular dentate area is more common than the maxilla. Osteomyelitis of the mandibular condyle and coronoid process is very rare. In this case report, we have discussed a case of chronic osteomyelitis involving the condylar and coronoid process associated with an impacted third molar and its management.

Keywords: Condyle; osteomyelitis; third molar.

INTRODUCTION

Osteomyelitis is an inflammatory process of cancellous and cortical bone that is caused by either bacterial infection, physical or chemical factors.¹ In the maxillofacial region, it mostly involves the mandible. Although modern medicine has made magnificent advances in antibiotics, osteomyelitis of the jaw is still a challenge for clinicians in day-to-day clinical practice.² We describe a case of chronic osteomyelitis of the condyle and coronoid process of the mandible in a postpartum woman.

CASE REPORT

A one-month postpartum patient was referred to the department of oral and maxillofacial surgery by a local hospital, after an unsuccessful incision and drainage attempt via an extra-oral approach one week back. The patient had pain and swelling on her left side of the face since six months. One month ago, she underwent cesarean section and gave birth to a healthy baby. She had no history of systemic diseases such as cardiovascular problems, diabetes mellitus, and tuberculosis.

The patient had facial asymmetry with obvious swelling in the left mandibular angle and preauricular region (Figure 1). One scar was seen on the left submandibular region. The swelling was firm, non-tender on palpation and normothermic with intact facial nerve function. The left submandibular lymphadenopathy was found on palpation. The patient had trismus with only two-finger mouth opening. Intraoral examinations could not proceed smoothly because of the limitation of mouth opening. The left mandibular third molar tooth was impacted. The computed tomographic scan showed inflammatory hyperplastic left mandibular ramus including the condyle and coronoid process (Figure 2).

Surgical excision of the lesion was carried out under general anesthesia using a submandibular approach (Figure 3). Since both the condyle and coronoid on the left side were involved by inflammatory hyperplastic tissue, both were resected. Then the impacted tooth was extracted along with sequestrectomy and decortication. Histopathological examination of the excised bone showed inflammatory changes along with dead bone,



Figure 1: Preoperative image showing facial asymmetry and trismus.



Figure 2: Axial section of computed tomograms showing the hyperplastic bone surrounding the left condylar and coronoid process.

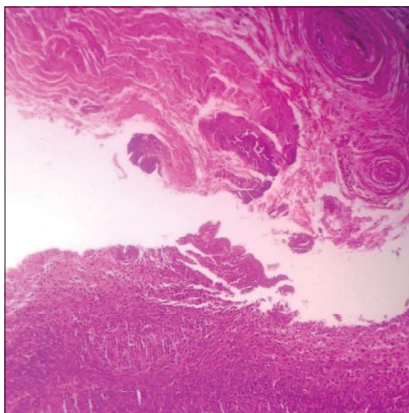


Figure 3: Intraoperative image showing hyperplastic condyle.

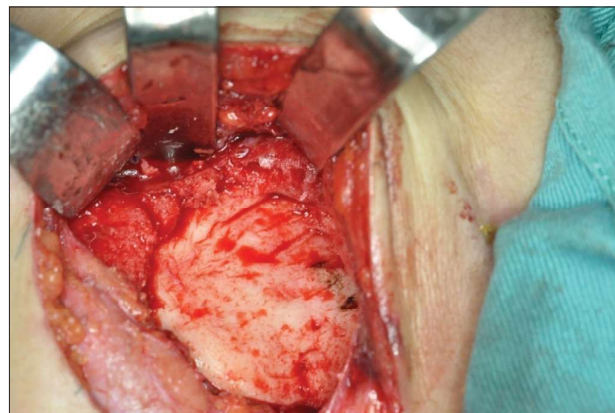


Figure 4: Histopathological Image showing sequestrum and inflammatory cells.

which suggested a diagnosis of the chronic osteomyelitis (Figure 4).

DISCUSSION

Although the use of the antibiotics has decreased the prevalence of osteomyelitis, the present chronic osteomyelitis of jaw is still a challenge to the clinician.³ The chronic osteomyelitis involving the condyle and coronoid process is rare because the most common cause of jaw bone osteomyelitis is odontogenic in origin. Several authors^{4,5} have reported cases of Osteopetrosis-associated osteomyelitis of the jaws however, no such associated disease was found in our case. Zemann et al⁶ had reported a case of primary osteomyelitis of the mandibular condyle with nonsuppurative chronic inflammation of unknown etiology unlike impacted third molar in our case.

Kanemato⁷ reported a patient with osteomyelitis of the condyle of unknown etiology in young patient sparing coronoid process. However, in our case, both condyle and coronoid process were involved by inflammatory hyperplastic bone, and the histopathological examination showed inflammatory changes.

According to the Zurich classification System, chronic osteomyelitis of the jaw can be divided into primary chronic osteomyelitis and secondary chronic osteomyelitis.⁸ Secondary chronic osteomyelitis of the jaw is further divided into three clinical types: suppurative chronic osteomyelitis, osteoradionecrosis of the jaw and bisphosphonate-related osteonecrosis of the jaw. In present case, the chronic osteomyelitis of the jaw may be secondary to the chronic infection from impacted third molar.

The classical treatment of chronic osteomyelitis of the jaw is sequestrectomy or decortication of necrotic bone and antibiotic therapy.⁹ The range of surgery varies according to the extension of the osteomyelitis. The goal of the surgery is removal of infected soft and hard tissue. Incomplete curettage and sequestrectomy may lead to recurrence of osteomyelitis. In our case, we removed the inflammatory hyperplastic mandibular condyle including coronoid process to increase the range of mouth opening and complete elimination of lesion. Finally the etiological

factor: the impacted third molar was extracted to remove the etiology.

The present case shows that although rare, the chronic infection from impacted mandibular third molar can be the cause of chronic osteomyelitis of mandibular condyle and coronoid process. The surgical excision along with removal of etiological factor is the definitive management of such cases.

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