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CASE REPORT

Post extraction lingual mucosal ulceration with bone necrosis

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Abstract This report describes a case of a 49 year old male patient presenting with lingual mucosa ulceration with cortical bone necrosis, above mylohyoid ridge in the right side of mandible. The patient had extraction a few days before development of the ulcer. The patient's medical history was clear and not on any drugs. Clinically, he presented with moderate pain and discomfort. Intraoral examination revealed a discrete ulcer of about 1 cm in diameter and exposure of the underlying bone, which was necrotic. Extra-oral examination showed no abnormalities. Radiographs revealed no pathology, apart from extraction socket. The case was treated in two phases; initial control of acute signs and symptoms by antibiotic cover and analgesic for 5 days, and smoothening of the exposed bone. This was followed by surgical removal of the necrotic bone and dressing of the vital bone with iodoform gauze. The lesion healed completely in 3 weeks.
Although the cause of this lesion is not clear, minor trauma from suture may be initiated the process. These ulcers are basically uncommon; however, general dental practitioners are invited to understand the potential systemic and local etiological factors and the management to avoid any unwanted complications.

1. Introduction

Mucosa covering the lingual cortex of mandible is thin and vulnerable to trauma, particularly the posterior supra mylohyoid region. Injury to this region may lead to full thickness ulceration and subsequent exposure of the cortical bone. Furthermore, prominent mylohyoid ridge or mandibular tori place this area at a high risk of traumatic ulceration.[1,2] The exposed lingual bone invariably endures ischemic necrosis and possibly sequestration. In addition, poor vascularization of this anatomical site prolongs the healing process from a week to several months.[3,4]

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Oral ulceration with potential osteitis or sequestration has been associated with numerous factors, such as aphthous stomatitis, systemic diseases, oral bisphosphonate, syphilis and radiotherapy.[5–8] Onset of bone necrosis can be provoked by a number of conditions related to poor host immune response, including immunosuppression, diabetes mellitus, malnutrition and extreme age.[9]

Although lingual mucosal ulceration (LMU) with osteonecrosis following extraction of lower molars is uncommon, it remains a known condition among oral and maxillofacial surgeons. Jackson and Malden[10] reported three cases of LMU, two involving a history of recent extraction. In one of the cases, ulceration developed a week after extraction with no associated trauma. In the second case ulceration developed a month after extraction and the exposed necrotic bone further caused traumatic ulceration to the lateral surface of the tongue. Several cases of spontaneous LMU with osteonecrosis "Idiopathic benign sequestration of the mandible" have been reported in various forms and sizes and were neither associated with history of trauma nor extraction. Interestingly, one of the reported cases had simultaneous bilateral lingual ulceration with bone exposure.[11–13]

Obviously, trauma is the most common cause of oral ulceration. There is an array of diverse etiological factors including iatrogenic damage during dental treatment that may clinically manifest as ulcers or bone necrosis with sequestration.[14] Nevertheless, in the majority of these cases the cause is identifiable and a differential diagnosis can be made.

Oral and maxillofacial surgeons are aware of these conditions; nevertheless, general dental practitioners are less familiar with these lesions. The affected patients usually presented with mild to moderate pain and discomfort. The clinical presentation reveals an avascular yellowish necrotic bone at the base of the ulcer. There might be necrotic bone spicules projecting out, which may cause trauma to the adjacent soft tissues. The ulcer margins may show redness and irregularities. Usually, there are no or subtle bone changes, therefore radiographic examination has little or no value to add in the examination.

2. Case report

A 49-year-old male patient attended the oral diagnosis department, College of Dentistry, Medical and Health Sciences University, Ras Al-Khaimah, UAE complaining of moderate pain on the lower right lingual mucosa of 3 days duration. Pain developed a few days after the extraction of his lower right third molar. The extraction was performed by a senior dental surgeon in the college dental clinic. Review of the patient's medical and dental history, revealed neither he was suffering from systemic illnesses nor taking any medicine. He reported pain in relation to a badly decayed 48 tooth, which was removed without any difficulty or complication. However, one interrupted suture was placed on the mesial aspect of the socket to approximate the soft tissues, which were elevated to take a deep grip of the broken crown.

Intraoral examination revealed a round ulcer with an erythematous halo of 1cm in diameter associated with exposure of the underlying bone. The ulcer was located on the right lingual aspect of the extraction socket, just above the mylohyoid ridge line (Fig. 1). The socket was filled with clot and appeared

Figure 1 Initial presentation of the ulcer and cortical bone necrosis.

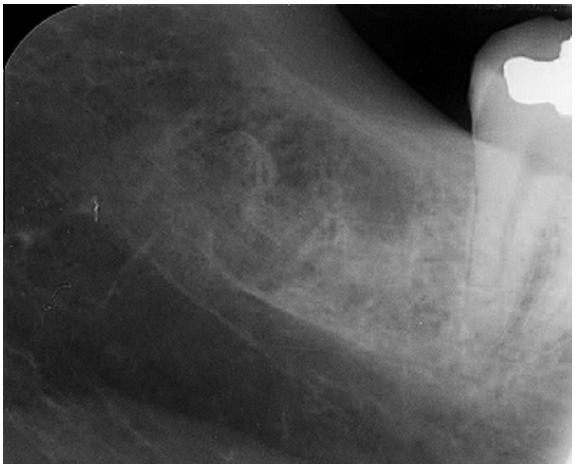

Figure 2 A radiograph revealing extraction socket (before surgical intervention).

to be healing normally. Ulcer margins and tissues in the vicinity were edematous, sensitive and erythematous. The yellowish exposed bone (osteonecrotic bone) was insensitive with no sign of vascularity; however, not separated from the lingual plate (no sequestrum formation). Extra-oral examination revealed no swelling, tenderness or regional lymphadenopathy. A radiograph was taken but showed no evidence of any pathology (Fig. 2). No other findings of significance were noticed. A diagnosis of idiopathic lingual ulcer with ostietis was made.

The treatment was initiated by filing the exposed bone under inferior alveolar nerve block to avoid any injury to the tongue. Oral antibiotics in the form of Amoxicillin 500 mg three times daily for 5 days and Brufen 400 mg tablets twice daily were prescribed to control the acute phase of the condition. In the second visit (4 days later), clinically, most of the acute signs and symptoms had been resolved. Under mandibular nerve block anesthesia, the margins of the ulcer were slightly elevated by periosteal elevator and the lingual necrotic bone at the base of the ulcer was removed by surgical bur down to the vascularized bone layer (Fig. 3). The freshly exposed bone was covered by iodoform gauze and sutured in place to promote healing (Fig. 4). Post-surgical instructions