hyperemia, changes in blood pH, hyperoxia, and unrestricted growth of granulation tissue have been hypothesized to be mechanisms for osteolysis.\(^1\)\(^-\)\(^7\)\(^-\)\(^12\) However, many studies suggest that nonmalignant, neoplastic proliferation of hemangiomatous tissue may be the cause of osteolysis.\(^1\)\(^-\)\(^3\)\(^,\)\(^5\)\(^-\)\(^7\)\(^-\)\(^12\) Whether osteoclasts are involved in the mechanism of bone destruction remains controversial. Few published studies report finding osteoclasts by histopathologic study in the areas of excessive bone resorption; these findings are consistent with our patient case.\(^1\)\(^-\)\(^3\)\(^,\)\(^5\)\(^-\)\(^7\)\(^,\)\(^11\)\(^,\)\(^13\)

The diagnosis of Gorham disease is based on clinical, radiological, and histological features after excluding osteolysis, which is secondary to other pathologic processes, such as congenital, metabolic, neoplastic, infections, and immunologic etiologies.\(^1\)\(^-\)\(^4\) Common differential diagnoses include essential osteolysis with nephropathy, metastasis, osteomyelitis, or rheumatoid arthritis. These clinical findings are mainly useful in eliminating these diseases. Because of the rarity of Gorham disease, no standard treatment is available. Many different kinds of treatment, such as estrogen, calcium, vitamin D, fluoride, or calcitonin, have been evaluated and show little efficacy.\(^7\)\(^\)\(^-\)\(^1\)\(^2\) In case 1, administering α-2b interferon, an antiangiogenic agent, concomitantly with oral bisphosphonates, was reported to be efficacious.\(^1\)\(^0\) Radiotherapy showed efficacy caused by the radiosensitive nature of the endothelial cells of the proliferating capillaries.\(^1\)\(^7\) Radiation therapy in a moderate dosage (40–45 Gy in 2-Gy fractions) was reported to modify the disease progression from an active to an inactive phase. Other studies have reported that surgery is another acceptable treatment.\(^1\)\(^-\)\(^3\)\(^,\)\(^8\)\(^-\)\(^9\)\(^,\)\(^11\)\(^,\)\(^18\)\(^-\)\(^20\) These studies suggested that surgical resection with artificial bone replacement would be an effective treatment for disease control. However, homologous bone grafts may also have osteolysis.\(^1\)\(^-\)\(^3\)\(^,\)\(^8\)\(^-\)\(^11\)

In summary, Gorham disease is a rare, idiopathic, and poorly understood disease. The diagnosis of Gorham disease is based on clinical, radiological, and histological features after excluding other diseases. Treatment is controversial, and until now, no standard treatment has been available. Surgery has been proven to be effective in some cases. Radiation therapy may be useful for its antiangiogenic activity.

**REFERENCES**


**Endoscopic Removal of a Maxillary Third Molar Displaced Into the Maxillary Sinus via the Socket**

Toshinori Iwai, DDS,* Yoshihiro Matsui, DDS, PhD,† Makoto Hirota, DDS, PhD,* Iwai Tohnai, DDS, PhD*

**Abstract:** Removal of a maxillary third molar is a common dental procedure, and oral surgeons rarely experience accidental displacement of a maxillary impacted third molar into the maxillary sinus as a complication of this procedure. In the case in which such displacement occurs, the molar is removed via a transcranial (Caldwell-Luc) approach.

**REFERENCES**

From the *Department of Oral and Maxillofacial Surgery, Yokohama City University Graduate School of Medicine, Yokohama, Kanagawa; and†Department of Oral and Maxillofacial Surgery, Faculty of Medicine, Kagawa University, Kagawa, Japan.

Received January 21, 2012.

Accepted for publication February 26, 2012.

Address correspondence and reprint requests to Toshinori Iwai, DDS, 3-9 Fukaura, Kanazawa-ku, Yokohama, Kanagawa 236-0004, Japan; E-mail: iwai104oams@yahoo.co.jp.

The authors report no conflicts of interest.

Copyright © 2012 by Mutaz B. Habal, MD

ISSN: 1049-2275

DOI: 10.1097/SCS.0b013e3182521efc
approach through bone removal or window osteotomy of the anterior wall of the maxillary sinus. However, this approach is highly invasive because 2 surgical fields are required at the socket and the anterior wall of the maxillary sinus. Here, we report as a minimally invasive approach endoscopic removal of a maxillary third molar displaced into the maxillary sinus via the socket.

Key Words: Endoscopic removal, maxillary third molar, maxillary sinus, socket, minimally invasive approach

Removal of a maxillary third molar is a common dental procedure, and oral surgeons rarely experience accidental displacement of a maxillary impacted third molar into the maxillary sinus as a complication of this procedure. In the case in which such displacement occurs, the molar is removed via a transantral (Caldwell-Luc) approach through bone removal or window osteotomy of the anterior wall of the maxillary sinus. However, this approach is highly invasive because 2 surgical fields are required at the socket and the anterior wall of the maxillary sinus. Here, we report as a minimally invasive approach endoscopic removal of a maxillary third molar displaced into the maxillary sinus via the socket.

CLINICAL REPORT

A 38-year-old man underwent removal of 4 third molars under general anesthesia. A right maxillary impacted third molar was accidentally displaced into the maxillary sinus during the procedure. We could not locate the displaced third molar with a dental mirror and therefore inserted an endoscope (70 degrees, 2.7-mm diameter, 11-cm length, 3.5-mm outer-diameter sheath; Karl Storz, Tuttingen, Germany) through the socket to locate it (Figs. 1 and 2). Under endoscopic guidance, the third molar could be removed completely via the socket by using an elevator and negative suction pressure (Figs. 3 and 4). The mucoperiosteal flap was replaced, and the wound was sutured. The patient’s postoperative course was free from complications such as oronasal fistula or maxillary sinusitis. Endoscopes were recently introduced into oral and maxillofacial surgery to provide a minimally invasive approach and have allowed for the endoscopic removal of, for example, a dental implant displaced into the maxillary sinus and an ectopic mandibular third molar. Moreover, use of an endoscope enabled easy removal without the need for a flap elevation or buccal bone removal when the root of a third molar fractured during flapless surgery. In the present case, the displaced molar could be completely removed via the socket in a minimally invasive manner, avoiding 2 secondary surgical sites. The endoscope can afford good visualization for surgeons, which can assist in the complete removal of teeth or dental materials displaced into the maxillary sinus.

REFERENCES


FIGURE 1. Endoscopic view through the socket of the right maxillary third molar. Arrow indicates the maxillary third molar accidentally displaced into the maxillary sinus.

FIGURE 2. Endoscopic identification of the maxillary third molar in the maxillary sinus.

FIGURE 3. Endoscopic removal of the displaced maxillary third molar using an elevator and negative suction pressure.