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Case Report / Olgu Sunumu

Surgical Management of Displaced Mandibular Third Molar Into the Submandibular Space

Submandibular Boşluğa Kaçan Mandibular Üçüncü Molar Dişin Cerrahi Çıkarılması

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ABSTRACT

Incidences of the displaced mandibular third molar tooth case are relatively rare. This case study reports a displaced mandibular third molar from a 26-year-old female patient in Cumhuriyet University, Faculty of Dentistry, Turkey. A computerized tomography image was obtained to locate the mandibular third molar tooth. The operation was performed under local anesthesia, and fragment from submandibular space removal by using an oval bone curette with finger guidance was unsuccessful in the first attempt because the bone fragment that appeared during the removal of the tooth was recovered in that area in the course of time and made the movement of the tooth difficult. Then, the bone fragment was removed with bur under saline solution irrigation without any difficulty, and the patient was prescribed antibiotics and analgesics.

Keywords: Third molar teeth, submandibular, CT

ÖZ

Submandibular boşluğa kaçan mandibular üçüncü molar diş olgusunun insidansı nispeten nadirdir. Bu çalışma, Cumhuriyet Üniversitesi Diş Hekimliği Fakültesi'ndeki 26 yaşındaki bir bayan hastadan yerinden çıkmış bir mandibular üçüncü moları bildirmektedir. Mandibular üçüncü molar dişi yerleştirmek için bir BT görüntüsü çekildi. Operasyon lokal anestezi altında yapıldı ve parmak yardımıyla oval kemik küreti kullanılarak submandibular boşluk çıkarılmasından kaynaklanan parça ilk denemede başarısız oldu çünkü diş çıkarılırken ortaya çıkan kemik fragmanı, zamanla o bölgede geri kazanılmıştır ve dişin hareketini zorlaştırmıştır. Daha sonra, kemik fragmanı, tuzlu çözelti altında herhangi bir güçlük çekmeden bur ile çıkarıldı ve hastaya antibiyotik ve analjezik verildi.

Anahtar Kelimeler: Üçüncü molar diş, submandibular, BT

INTRODUCTION

Mandibular third molar extraction is a common surgical procedure in dental clinics and various operative complications, such as infection, hemorrhage, trauma to adjacent tissues, alveolar osteitis, and dysesthesia of the inferior alveolar and lingual nerve, of this procedure have been mentioned frequently this book in textbooks and journals (1, 2). The accidental displacement of a mandibular third molar or one of its roots and information on its incidence and management in the literature are relatively rare (3). This surgical complication might cause severe life-threatening sequelae, medicolegal implications, foreign body reaction, and tissue injuries. Here, we present a case of mandibular third molar displaced into the submandibular cavity to remind potential ways of coping in this field, how to use images to localize the part, and how to use it with methods related to different methods.

CASE PRESENTATION

A 26–year-old female patient applied to the Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Cumhuriyet University with a complaint of pain in the left submandibular region. The patient reported that her left mandibular third molar was extracted by a general dentist nearly 6 months ago and applied to the Department of Otorhinolaryngology, Faculty of Medicine, Cumhuriyet University. Although the Department of Otorhinolaryngology recommended the patient to consult the Department of Oral and Maxillofacial Surgery, she ignored it because she had no complaints during that time.

This study was presented at the " 16th International Congress of Turkish Association of Oral and Maxillofacial Surgeons Congress November 3rd-8th, 2009 Ürgüp, Nevşehir, Turkey ".

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During the examination of her oral condition, a painful palpable mass was noted. On panoramic radiography, the roots of the tooth without a crown were observed in the angulus region (Figure 1a). A computerized tomography (CT) was obtained from the left mandibular third molar region to detect the exact localization (Figure 1b). The three-dimensional reconstructed CT image showed the displaced tooth fragment in the submandibular space (Figure 1c).

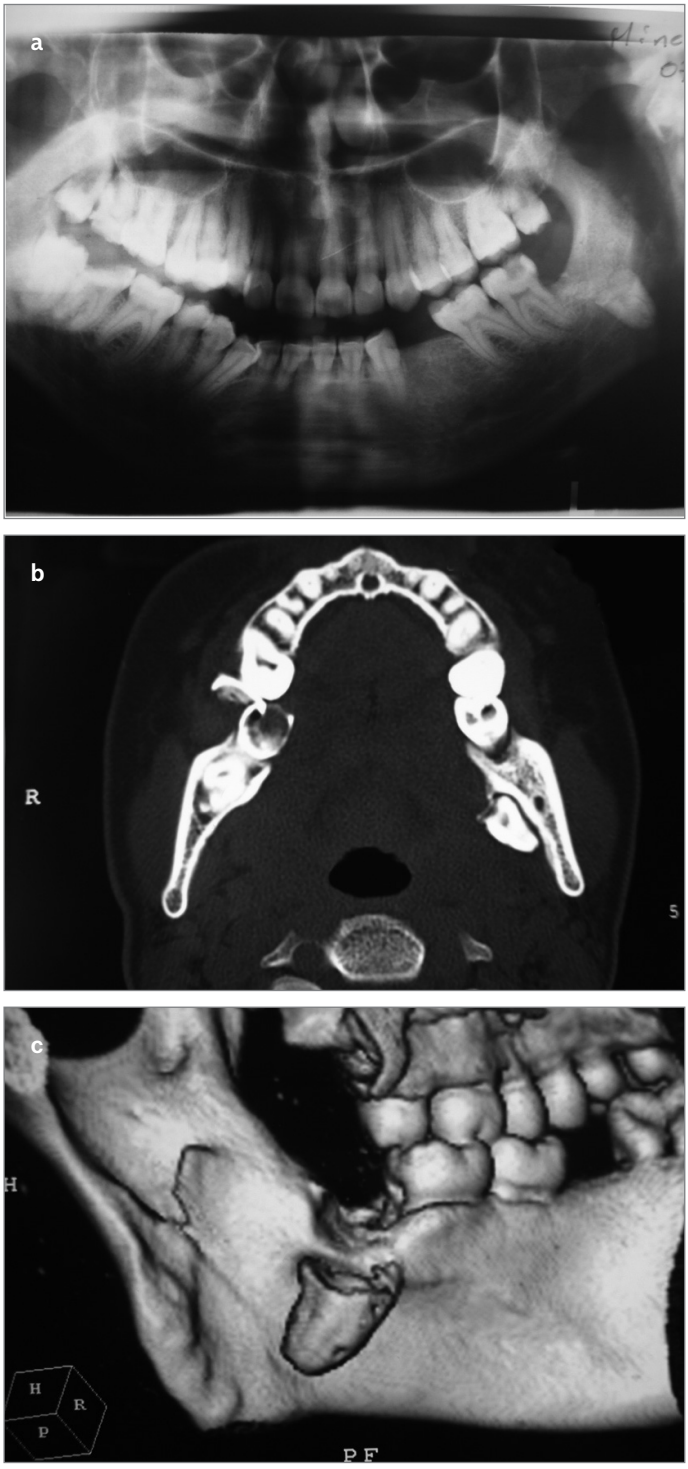

Figure 1. a-c. Preoperative panoramic radiograph of the patient (a). Computerized tomography showing the tooth (b). Three-dimensional computerized tomography of the patient (c)

The operation was planned under general anesthesia but was canceled due to excessive lingual edema and close location of the nasotracheal tube to the tooth fragment. The operation was performed under local anesthesia (2% ultracaine with 1:100,000 epinephrine). Then, 60 mg methylprednisolone and 600 mg clindamycin were preoperatively administered parenterally. An incision was made along the lingual sulcus of the left lower canine and was extended to left retromolar region. After reflecting the mucoperiosteal flap, the mylohyoid muscle fibers were dissected carefully so as not to damage the lingual nerve. The tooth fragment was exposed.

The first attempt of taking out the tooth fragment from the submandibular space by using an oval bone curette with finger guidance was unsuccessful. After detailed exploration, it was noticed that the healed bone fragment

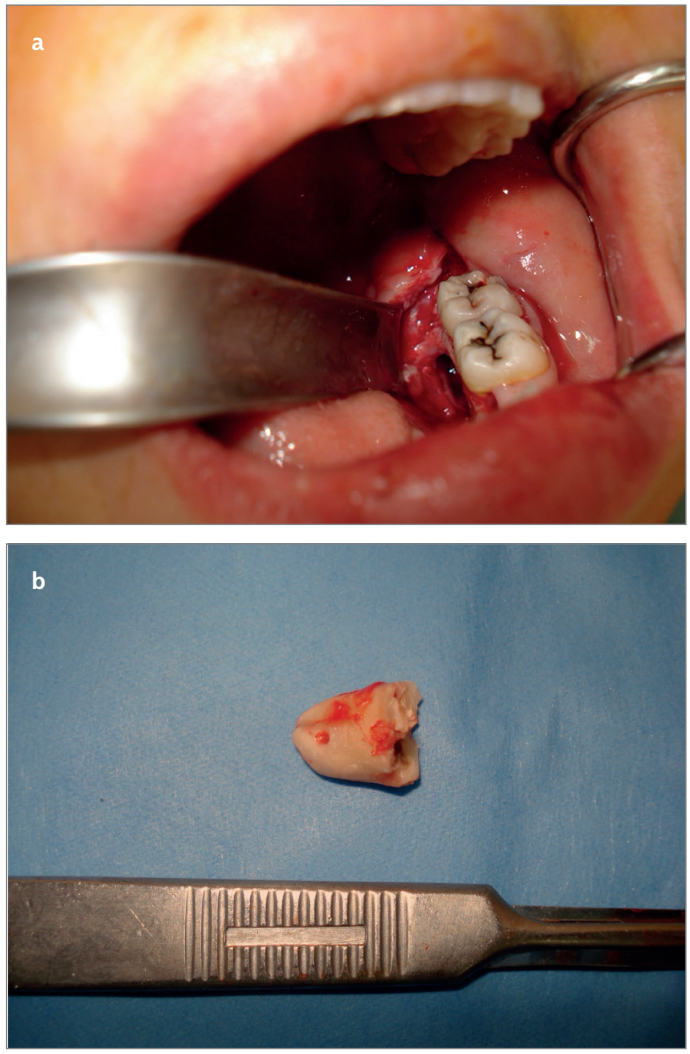

Figure 2. a, b. Intraoral view of the operation site after the removal of the displaced mandibular third molar (a). The remaining tooth was removed from the submandibular space (b)

restricted tooth movement. After removal of this bone fragment with bur under saline solution irrigation, the tooth fragment was removed without any difficulty.

After the operation, the patient was prescribed antibiotics and analgesics. There was no complaint after 3 days, the sutures were removed after 1 week, and all of the patient's complaints had dissipated (Figure 2a, b).

The Cumhuriyet University Institutional Review Board exempts case reports.

DISCUSSION

Extraction of the entire tooth is rarely encountered by extraction. In addition to anatomical considerations, such as dehiscence in the lingual plate or distolingual angulation of the tooth (4, 5), uncontrolled or excessive force, inadequate clinical and radiographic examination, and improper manipulation resulting from lack of experience are important factors when tooth displacement is caused.

Howe (6) reported complete mandibular third molar extraction from the base of the mouth. Stacy et al. (7) explained that a third molar root fracture was removed from a similar site. Huang et al. (3) reported the 19 third displaced molar third molar examinations and compared each case's treatment protocols. Only two cases have been reported since that time. One of these cases is the case with a bur displaced in the submandibular space, and the other one is the displacement of a third molar to the sublingual space.

In some reported cases of the displaced tooth, it causes no complication, such as infection, edema, and neurologic problems, limiting the movement of the jaw at all. However, foreign body reactions should always be considered. In our case, the patient ignored to consult the Department of Oral and Maxillofacial Surgery even though it was recommended by the Department of Otorhinolaryngology because she was asymptomatic at the time. After 6 months, she developed a painful palpable mass in her left mandible, which is considered to be a foreign body reaction (8).

In this case, on panoramic radiograph, a part of the tooth was detected in the sublingual region, and 3D CT was performed to determine the exact localization. Radiographs should be up to date as the tooth may migrate over time. 3D CT scans are preferable for the detailed localization of the displaced structure, if possible (9). The tooth was localized under the linea mylohyoidea; however, no fracture site was observed because of the delayed examination of the patient. Dissection of the mylohyoid muscles made extraction easy. Delaying the surgery for removing the displaced structure for a few weeks is suggested by some authors, allowing the encapsulation of the tooth by fibrosis so that it is in a stabilized firm position.

This is to follow general information about dentists working inferences, appropriate tools, avoidance of excessive force and finger guidance. When a dentist discovers that teeth or fragments are displaced during a tooth extraction, it is recommended that the dentist avoid attempted re-intake unless the part is clearly visible and easy to grasp.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

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