

# Displaced lower third molar tooth into the submandibular space: Two case reports

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## Abstract

The aim of this article is to emphasize that the accidental displacement of a lower third molar during extraction is a rare, but potentially serious complication. We present two case reports on a lower third molar tooth dislodged into the submandibular space following its removal from the sockets and the subsequent management of this rare complication. Differences in the direction of displacement, the size of fragment, delay in retrieval, and tissue reactions can all influence this potential serious complication and hence no one technique is uniformly applicable. Though a rare complication, clinicians must be aware of possible lower third molars dislodgement into tissue spaces and the necessity to initiate prompt and appropriate management.

**Key words:** Anatomic spaces, lower molar teeth, malpractice

## INTRODUCTION

Lower third molar teeth can be dislodged into facial tissue spaces during its extraction. The accidental displacement of a lower third molar or its root fragments although not common during extraction, is nevertheless a well-recognized complication.<sup>[1,2]</sup> Information about its incidence and management in the published literature is very limited. This complication usually occurs when the tooth is located lingually, fenestration of the lingual cortical plate with root exposure, and following inadequate surgical technique.<sup>[2,3]</sup> Incidentally displaced fragments may vary in size and appear in different tissue spaces. Consequence to variations

in the delay between displacement and retrieval, no single method of retrieval is applicable to all circumstances. It is also possible that the incidence of this complication may be under-reported. The aim of this article is to emphasize that the accidental displacement of a lower third molar during extraction is a rare, but potentially serious complication.<sup>[1-3]</sup>

## SUBJECTS AND METHODS

### Case 1

A 30-year-old female patient was referred to our clinic with the complications of acute pain and history of 1 week swelling of right cheek. Clinical examination revealed face

asymmetry and limitation in opening mouth as a result of swelling in the right angulus region. In her anamnesis, the patient went to the State Hospital due to pain in the right third molar region. Following radiological and clinical evaluation the dentist decided to extract the right third molar with the indication of pericoronitis. During the extraction procedure, right third molar was displaced to the submandibular space. Then, patient was informed about the situation, anti-biotherapy was initiated and patient was referred to our clinic. Due to the holiday, there was 1-week delay in referring the patient to our clinic. Physiotherapy was performed and after a couple of days, she had sufficient mouth opening to facilitate surgical intervention. Under general anesthesia patient was operated and the right third molar tooth was removed from submandibular space. No complication was observed post-operatively except for transient lingual nerve anesthesia for 1 month [Figure 1a and b].

## Case 2

A 34-year-old male was admitted with the complaining of mild facial pain and difficulty in chewing and talking. Clinical examination revealed that extraction socket of right lower third molar. The range of mandible motion was limited in all directions and mild pain was evident in the pre-auricular area. Radiological examination revealed presence of the tooth root in submandibular space. In his anamnesis, the patient was treated in the state hospital for pain in the right lower third molar. Extraction was planned; however, during the surgical procedure crone was broken and the root was retained in the submandibular space. The roots were partially removed from the submandibular space with the force of elevator. When patient was referred to our clinic, he had limited mouth opening owing to pain. Local anesthesia was induced to facilitate mouth opening. The root of right third molar was extracted under local anesthesia and post-operatively lingual nerve anesthesia was present for 2 weeks. In the late period of follow-up, no complication was observed [Figure 2a and b].

## DISCUSSION

Accidental displacement of a third molar or a root fragment to the submandibular space is a rare event. According to Brauer's report this complication has incidence less than 1%; however, systematic studies to determine the incidence rate are lacking.<sup>[4]</sup> The most common cause of this complication is lingual plate fracture or perforation during extraction. Inadequate pressure applied with the elevators, may possibly move the root into deep anatomic spaces, predisposing to this complication. On many occasions, attempts to remove the fragment without adequate visibility and with a lack of surgical skills can result in increased displacement of the tooth or root fragment.<sup>[1,5]</sup> Age can also be a risk factor because these root fragments would not

be present if the extractions were performed at a younger age before the completion of root formation. In fact, the mean age of the present patients was 38 years, which is older than in most studied samples of third molars.<sup>[6]</sup>

It is necessary that all third molar extraction cases should be carefully evaluated in advance and significant risks assessed in the informed consent discussion. Dentists attempting these extractions should follow the general rules regarding adequate access, appropriate bone removal, and avoidance of excessive force. They should be further aware that finger guidance might be used to prevent dislocation of the tooth to the lingual side, especially those teeth with distolingual inclination. Based on our experience, we recommend that the dentist refrain from an attempt at retrieval unless the fragment is very clearly and easily seen and grasped. Some reports underline the inappropriately performed techniques can potentially make the situation worse.<sup>[7,8]</sup> Attempts at retrieval by dentists with limited training may result in the fragment being pushed deeper into the tissues. Therefore, we recommend that the dentist halt the procedure and refer the patient as soon as possible to an oral and maxillofacial surgeon, together with all the relevant information. This should include the size of the fragment, the circumstances of the extraction, and the radiographs. It is necessary to avoid any delays in referring the patient to a dental surgeon; however, in the event of these delays being unavoidable, the dentist should clean the area, suture the wound, and administer antibiotics. The timing of the retrieval attempt has been the subject of some debate. We favor an early intervention as possible. However, some have argued that a delay may favor fibrosis and "stabilization" of the fragment.<sup>[9]</sup>

The situation should be addressed as soon as possible. Where there has already been a delay in the referral, one should note any existing nerve injury or infection, and record this carefully. If the fragment is small and close to the socket, we suggest that our modified method is very suitable. However, when the fragment is large and palpable, one may use either the modified method or the conventional method, with pressure upwards from beneath the mandible if necessary. If the fragment is close to the lateral pharyngeal space or deep cervical space, an extra oral approach or a combined intra/extra oral approach may be needed.<sup>[5]</sup> When the fragment is not palpable and the panoramic and occlusal films are inconclusive, a computed tomography scan should be mandated.<sup>[5]</sup>

The displaced mandibular third molar is a rare, but potentially serious complication of extraction. Every dentist should treat it with care, and when the accident occurs the general dentist should refer the patient to an oral and maxillofacial surgeon at the earliest possible.



Figure 1a: Pre-operative radiological view of case 1



Figure 1b: Post-operative radiological view of case 1

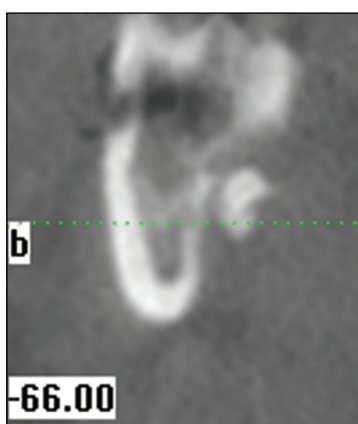


Figure 2a: Pre-operative radiological view of case 2

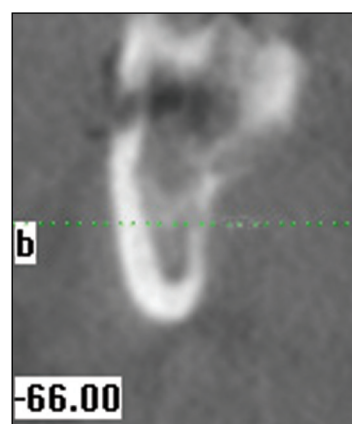


Figure 2b: Post-operative radiological view of case 2

## CONCLUSION

Accidental displacement of a lower third molar root into the submandibular space is an uncommon complication. When the fragments are small, surgical removal of the displaced roots is unnecessary because patients usually remain symptom free. When surgery is needed, a considerable incidence of complications should be expected and appropriately intervened.

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