

Accidental Displacement of Mandibular 3rd Molar into the Pterygomandibular Space & its Management : A Case Report

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Abstract

Accidental displacement of mandibular 3rd molar into the pterygomandibular space during extraction is a rare complication. This article is to report a case of a lower 3rd molar displaced into the pterygomandibular space during an unsuccessful surgical intervention. A 50 yrs old male patient referred to our Dept. of dental Surgery by a Dental Surgeon for unsuccessful attempt to remove the left lower 3rd molar about seven days back with the

complaints of pain & restricted mouth opening. On examination, partial trismus & missing lower last molar was observed. Immediately O.P.G X-ray was done & revealed that the 3rd molar was into the pterygomandibular space. Under antibiotic coverage & local anesthesia the displaced tooth was removed successfully by bi-manual palpation & retracting the lingual mucoperiosteum. The post operative period was uneventful & the patient recovered without any sequel.

Introduction

The accidental displacement of an entire tooth, root fragment, the crown into adjacent anatomical areas during the removal of an unerupted third molar is a rarely seen complication. The most common sites of displacement are the maxillary sinus & submandibular space. On the other hand, less common sites of displacement are the infratemporal space, sublingual, pterygopalatine, and lateral pharyngeal spaces, the inferior alveolar canal and pterygomandibular. The dehiscence or the thinness of the lingual cortex and close relation of the roots of the lower third molar seems to pose some risk factors for lower third molars to displace into the adjacent spaces. Some iatrogenic factors, such as using excessive and uncontrolled forces and poor clinical and or radiological judgment, also seem to increase this complication. This case report describes the unusual clinical course of accidentally displaced mandibular left third molar into the pterygomandibular space and its surgical management.

Case Report

A 50 year old male patient was referred to our O.P.D clinic with complaints of pain & limitation of mouth opening. The patient's history revealed that he had undergone surgical bid to remove the lower left last molar 7 days back but failed to remove the tooth. Further investigation showed that during the procedure the dental surgeon suddenly found that the tooth was disappeared. The surgeon assumed that the tooth had displaced into the lingual space & informed the patient of his suspicion. & referred to our Dept. On examination, partial trismus with pain & missing of lower last molar was noticed. Immediately an O.P.G X-ray was done & revealed the position of that last molar which was into the pterygomandibular space. Under antibiotic coverage & local anesthesia the displaced tooth was removed successfully by bi-manual palpation & retracting the lingual mucoperiosteum by placing retractors to avoid injury to lingual nerve. The post operative period was uneventful & the patient recovered without

any sequel.

Discussion

Accidental displacement of the last molar root or entire tooth during extraction is a rare event. The incident of complication during lower third molar extraction is assessed to be less than 1%. There is a debate in the literature about the time to retrieve the displaced tooth & fragment. Some authors prefer to remove the displaced tooth at the time of initial surgical procedure or to postpone for a short time as possible. However, others prefer to perform a second surgical intervention 3 or 4 weeks later, after foreign-body-induced fibrous reaction immobilizes the tooth. On the other hand, delayed intervention may increase the risk of infection and result in a foreign-body reaction or migration of the tooth. Several factors, such as size of the displaced fragment, location of the displacement and/or circumstances in which the incidence occurred, are important issues that has to be taken into consideration. According to systematic review done by Hu, in most cases patients have no symptoms at

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all . However, if pain and swelling are present in the area, immediate removal of the root should be commenced. According to Aznar-Arasa et al., these symptoms are closely related to the size of displaced fragment, particularly when it exceeds 5 mm. In this presented case, the patient was immediately referred to us although he reported after 7 days.

The most common cause of iatrogenic displacement of lower third molar is lingual perforation or fracture during extraction, which in addition to an improper or excessive force applied with elevators . In the presented case, authors believed that the lack of surgical skills and or using improper or excessive force with elevator resulted displacement of the entire lower third molar. Whether a contributory factors, such as; thinness or dehiscence of the lingual plate, were related to this incidence at the first place, could not be known by the authors of this study.

Various conventional radiographic views can be taken to visualize a displaced root or entire tooth from the socket. A periapical radiograph can reveal the displaced fragments or the entire tooth. However, in many cases, exact anatomical location requires panoramic, occlusal, lateral radiographs and CT scan views. An orthopantomograph will probably provide the useful information as shown in this case .. However, conventional radiographic techniques may not be adequate to precisely locate the displaced tooth in the adjacent soft tissues. Advanced imaging techniques, such as; CT or Cone-beam CT scanning, are often required to locate a displaced tooth and its relation to the adjacent soft tissue. In the authors' opinion, the exact localization of the displaced tooth will facilitate the access and the retrieval of the tooth without damage of the nerves and blood vessels during surgical operation.

Even though couple approaches have been suggested in the literature (intraoral and/or extraoral), surgical access to the antero-inferior aspects of the pterygomandibular space can be achieved without much difficulty via an intra-oral approach using lingual mucoperiosteal flap.¹⁸ However, if the displacement is deeper into the substance of the medial pterygoid muscle or inferiorly into the submandibular space, an extra-oral approach may provide better

access. In this case intra-oral approach was preferred due to the antero-inferior localization of the displaced tooth.

In this presented case, we had two orthopantomograph: the first OPG was obtained at the time of the first visit in our O.P.D, and the second was obtained after 7 days of the surgery. It is of great importance to note that the first radiograph, which was taken immediately after the initial surgical intervention, has provided us substantial information on the changes in the position of the displaced lower third molar. In this case, fibrous inflammatory tissue reaction was not able to immobilize the displaced tooth as suggested by some authors . The displaced tooth migrated upside down in the pterygomandibular space.

To prevent this incident, a complete evaluation of all significant factors should be considered in advance. Extraction of third molars should always be performed with proper visual access to the extraction site. Using excessive forces toward lingual bony cortex with elevators should be avoided during extraction . When it happened, the authors believe that a displaced tooth should be removed immediately after its displacement, if it is possible, since a delayed surgical intervention may cause potential complications such as infection, tooth migration and foreign-body reaction . Dental practitioners should be aware of the possible problems associated with the extraction of the lower third molar. If the tooth is displaced into the adjacent anatomical areas during the extraction, the dental Surgeon should refer the patient to an oral surgeon as soon as possible to prevent possible complications.

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Pre-OP Photograph



Immediate Post-OP Photograph



Post-OP Photograph

