

Displacement of lower third molar into the lateral pharyngeal space in a case of mandibular angle fracture: An unusual complication

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Abstract

Fracture of the angle of the mandible accounts for nearly one-third of all fractures involved. The presence of lower third molar increases the risk of fracture in angle region. The third molar acts as an area of weakness leading to fracture lines passing medially, distally, and occasionally through it. Angle fracture leads to the mobility of the third molar and sometimes its displacement. Third molars maintain its position in favorable fracture and can be displaced in unfavorable fractures. Displacement of lower third molar in lateral pharyngeal space due to mandibular fracture is not seen commonly. To our knowledge, this is the first reported incidence of displacement of the third molar into lateral pharyngeal space in a case of mandibular fracture.

Keywords: Displaced lower third molar, lateral pharyngeal space, mandibular angle fracture

Introduction

Fortuitous displacement of teeth or roots during extraction is a rare phenomenon. Lingually inclined teeth or deeply impacted mandibular third molar teeth may have a higher risk of being displaced into the lingual soft tissues. Elevation may also lead to displacement. Mandibular molars, especially third molars, can be squeezed into the sublingual space,^[1] submandibular space,^[2] pterygomandibular space,^[3] lateral pharyngeal space,^[4,5] and cervical spaces in the neck. The displacement of teeth into the adjacent cervical space is an uncommon complication. The most reported complications are the displacement of the root or crown or entirely tooth displacement into the maxillary sinus or submandibular space.^[6] The purpose of this article is to report a rare incidence of displacement of the lower third molar in lateral pharyngeal space in a case of mandibular angle fracture in a case of road traffic accident (RTA).

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Case Report

A 46-year-old female patient was referred to Department of Oral And Maxillofacial Surgery with complaint of pain, and swelling on the left side of the face as a result of RTA. On clinical examination, step was palpated in right parasymphysis and left angle region. Intraorally reduced mouth opening (17 mm), difficulty in swallowing, occlusal derangement, segmental mobility, and missing lower left third molar was observed.

Orthopantomogram (OPG) confirmed fracture in the right parasymphysis and left angle region. Furthermore, lower third molar was found to be present near the posterior border of the ramus [Figure 1]. However, to know the exact location of the tooth, axial and coronal computerized tomography (CT) were obtained. CT revealed that the tooth is in the lateral pharyngeal space (LPS) [Figure 2].

In the present case, general anesthesia was preferred for retrieval of tooth. Extraoral, Risdon's incision was given just below the angle of mandible. After careful dissection, intraoral finger pressure was applied; the tooth was guided in backward, downward, and outward direction and removed extraorally from the medial aspect of the ramus of the mandible [Figure 3]. Reduction and fixation of the

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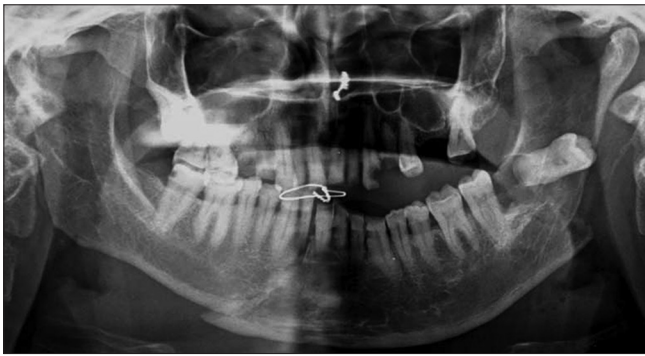


Figure 1: Orthopantomogram showing right parasymphysis, left angle fracture and displaced lower third molar



Figure 2: Computed tomography axial view showing displaced lower third molar in lateral pharyngeal space

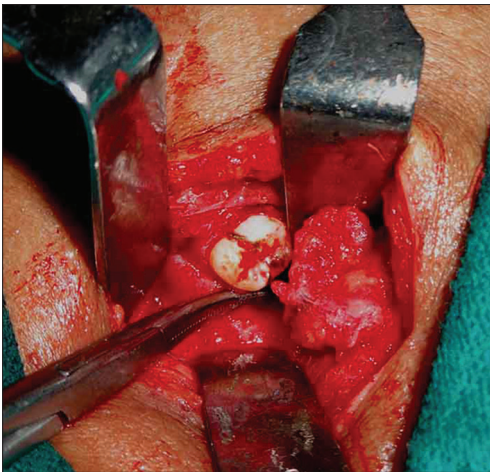


Figure 3: Lower third molar removed extraorally

fracture segments were then done and closure was done uneventfully.

Discussion

Displacement of mandibular third molar into LPS is a very rare complication. The most common cause of such displacement

may be due to incorrect use of basic surgical techniques for removal, unnecessary excessive forces applied during the use of elevators and distolingual angulation of the third molars.^[1]

In the present case, the cause for the displacement of lower third molar is RTA. The reason for such a deep displacement of lower third molar is two-fold, first, the high velocity of RTA and second, the relative thinness of the lingual cortex. Since the patient fell down from the running two-wheeler, the force may have been directed in the angle region of mandible and fractured the lingual cortex and dislodged the wisdom tooth deeper into the soft tissue in the LPS.

Plain conventional radiographs were taken to visualize the fracture of mandible and displaced lower third molar. OPG revealed the third molar lying overlapping on the ramus of the mandible. However, this plain radiograph can only give the two-dimensional record of the three dimensional object. To obtain the precise location of the third molar, CT (axial and coronal view) was obtained. CT gives correct representation of the structures to be viewed, precise position and its relation to other structures.^[1,7] Thus, exact location of the displaced tooth will not only give us the idea of an approach to be taken for its removal but also make the surgery less complicated. In the present case, the lower third molar was displaced medially deeper in the soft tissue in the LPS situated between the medial pterygoid muscle laterally and superior constrictor of pharynx medially.

Some authors suggested early surgical intervention for removal of displaced tooth.^[8] Conversely, others proposed that delaying the removal of tooth for few weeks may allow the fibrosis and stabilize the tooth in same position.^[7,9] However, delaying surgical intervention may increase the likelihood of migration of the tooth deeper into the soft tissues planes making it difficult to retrieve. Sometimes, it may generate a foreign body reactions and possibilities of extremely serious infections. There can be a direct effect of the infection on the contents of space especially those of the posterior compartment. These include thrombosis of the internal jugular vein, erosion of the carotid artery, and its branches and also interference with cranial nerve IX through XII.^[9] In the present case, the tooth was removed without delay to avoid extremely severe complications.

Various surgical approaches for retrieval of the lower third molar from the lateral pharyngeal space (intraoral/extraoral) are recommended in the literature. Simple intraoral approach can be used in cases where the third molar is accessible.^[10] Intraoral approach in the present case would have been difficult to retrieve the tooth since it is displaced deeper to the medial pterygoid muscle in the soft tissues spaces. Manipulation for removal of the tooth by intraoral approach may further push the tooth deep into the soft tissue planes. In the present case, extraoral approach was preferred. Skin incision was given 1.5 cm below and just behind the angle

of the mandible. The access was made medial to mandible and superiorly along the inner aspect of internal pterygoid muscle into the LPS. By the Intraoral finger pressure, the tooth was guided in backward, downward, and outward direction to remove extraorally.

Mandibular angle fracture leading to displacement of the lower third molar in LPS is a rare entity. In such cases, salvaging of the tooth is challenge for the maxillofacial surgeons. There is no ideal procedure for removal of the tooth in this condition. The surgeons can choose the treatment appropriate for each case. The most important criteria for removal of the tooth from the LPS are to precisely locate the tooth with the help of three dimensional imaging either by CT scan or cone beam CT. Early surgical intervention should be done in such cases to avoid the fatal complications.

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Conflicts of interest

There are no conflicts of interest.

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