ECTOPIC POSITIONS OF THIRD MOLAR – MAXILLA AND MANDIBLE

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ABSTRACT

According to Peterson, an impacted tooth is one which fails to erupt within the dental arch in the expected time. Ectopic teeth usually impact in an unusual position or away from their anatomic position. They can be permanent, deciduous or supernumerary. We report two cases of ectopic impaction of third molar – maxilla and the mandible.

Keywords: *Ectopic, Impaction, Third molar, Maxilla, Mandible.*

INTRODUCTION

A tooth is said to be impacted when the path of eruption into the occlusal plane is obstructed by the presence of bone, tooth or soft tissue, hence further eruption is not possible.[1] Peterson has stated that an impacted tooth is the one which fails to erupt within the dental arch in the expected time.[2]

Ectopic teeth often impact in an unusual position or away from their normal anatomic position. They maybe deciduous, supernumerary or permanent.[3] Eruption of a tooth ectopically into dental structures is not rare. But eruption of a tooth ectopically at other sites is rare.[4] The most common sites involved are palate, mandibular condyle, coronoid process, maxillary sinus, nasal cavity, orbit or via the skin.[5,6]

In this case report, we present two cases with ectopic impaction in the mandible – ascending ramus as well as the maxilla – maxillary sinus.

CASE REPORT

CASE 1: A 29 year old male patient has visited the department with pain on the left lower back region of the jaw since a week. The pain was dull aching, intermittent in nature with no aggravating or relieving factors. Family histories, history of drug allergy, medical and dental history were non-contributory. Panaromic radiography **(Fig.1)** revealed flattening of the left condylar neck in comparison to the right, vertically impacted 38 and 48 was impacted and displaced superiorly in the ascending ramus. There were no morphological or pathological changes in the surrounding bone. The symptoms were associated with the vertically impacted 38, while 48 was asymptomatic. The patient underwent surgical removal of the 38, but refused to undergo any treatment for 48. But he was advised to have periodic check-up of the ectopically positioned 48.

CASE 2: A 32 year old male patient had visited the department with pain in the lower left back tooth region since 6 months. Pain was of pricking type, intermittent in nature, radiating to the forehead and behind the ear, and also to the left cervical area. Family history, history of drug allergy, medical and dental history were non-contributory. Panaromic radiography (Fig.2) revealed normal right and left condylar and coronoid process, displacement of the left maxillary molar into the maxillary sinus. No morphological as well as pathological changes were observed in the surrounding area. The patient was advised to remove the ectopically positioned third molar, but he denied treatment.

Fig. 1: Panaromic radiography revealed flattening of the left condylar neck in comparison to the right, vertically impacted 38 and 48 was impacted and displaced superiorly in the ascending ramus.

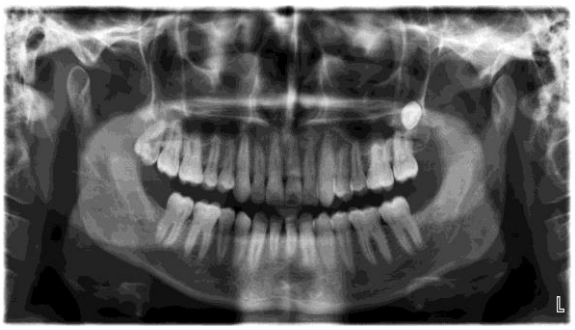

Fig. 2: Panaromic radiography revealed displacement of the left maxillary molar into the maxillary sinus.

DISCUSSION

Ectopic third molars, which are mandibular in origin are a rare phenomenon with the etiology being unclear.[7] Mandibular third molars which are impacted are classified based on the anterior-posterior spacing between the mandibular second molar and the ramus, its position in the superior-inferior aspect, its mediolateral position in the mandibular body and the position in the long axis.[8,9] Pell and Gregory system is the commonly followed, where the inclinations and positions of the third molars are based on the relation among the dental longitudinal axis, occlusal plane and ascending mandibular ramus.[10]

The Pell and Gregory classification:-

A. The occlusal plane of the impacted tooth is the same level as the occlusal plane of the second molar.
B. The occlusal plane of the impacted tooth is between the occlusal plane and the cervical line of the second molar.
C. The impacted tooth is below the cervical line of the second molar.

1. There is sufficient space between the ramus and the distal part of the second molar for the accommodation of the mesiodistal diameter of the third molar.
2. The space between the second molar and the ramus of the mandible is less than the mesiodistal diameter of the third molar.
3. All or most of the third molar is in the ramus of the mandible.

According to this, the mandibular impaction mentioned here falls under the category C, under the third subcategory, where most of the third molar is within the ramus of the mandible. [11]

The heterotopic positions of the ectopic third molars, mandibular in origin have been mentioned in the area of the condyle, in the mandibular ascending ramus or the coronoid process.[7]

Majority of third molars, which are ectopic are asymptomatic. They are mainly diagnosed during periodic clinical and imaging investigations.[7] Ectopic impactions of third molars, mandibular in origin have been stated in the coronoid process, condylar and subcondylar areas.[7]

Eruption of a tooth ectopically into the dental environment is not rare, but ectopic eruption of a tooth in other sites is not common.[4] Maxillary sinus is a location for tooth eruption in an ectopic manner and non-dental in origin.[12] Eruption which is ectopic may occur as a result of disturbances in development, pathologic action and could also be iatrogenic.[13]

Tooth development is due to interplay among oral epithelium and the underlying tissue, mesenchymal in origin. In the 6th week of utero the process of development of dental lamina of maxilla and mandible appears in the future alveolar process region. Between the fifth and the tenth month, this derivative of ectoderm is subjected to proliferation, thus forming the permanent dentition, each mature tooth composing of a crown as well as a root.[2] During tooth formation, interactions among abnormal tissue may possibly result in development of ectopic tooth and eruption.[14]

TREATMENT

If third molars should be retained or removed depends to a great extent on the individual case. Third molars which are ectopic, asymptomatic or not associated with any disease do not necessitate removal.[15-19] In cases of symptomatic hugely deviant third molars or without an immediate prerequisite, yearly follow up visits are mandatory to monitor the growth of the lesion.[20,21]

Eruption of a tooth ectopically within the dentate region is common in clinical proceeding, which is mainly seen in mandible. But in non-dentate areas like maxillary sinus, it is uncommon.[22,23] The treatment for a tooth ectopically erupted in the maxillary sinus is removal. If left untreated cyst formation may result.[24] Dentigerous cyst, Keratocystic Odontogenic tumour and Amelobla-stoma are the odontogenic lesions which have been associated with impacted third molars.[25] Caldwell-Luc procedure is the traditional approach allowing a direct view into the maxillary sinus.[26]

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