

Rare Occurrence of Inverted and Impacted Maxillary Third Molar: A Case Report

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Case Report

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ABSTRACT

Third molars are the most commonly impacted teeth in the oral cavity. However, inversion of the impacted third molar is a rare clinical finding. This case report addresses a case of a 40-year-old male patient having an inverted and impacted maxillary third molar. The patient was symptomatic, having mild pain and discomfort in the right maxillary third molar region. Surgical extraction of maxillary third molar was planned and performed under local anesthesia after taking informed consent from the patient.

Keywords: Impacted Teeth, Inverted Molar, Maxillary Third Molar.

Introduction

An impacted tooth is defined as one which fails to erupt in its desired functional position in the occlusal plane within the expected time.¹ An impacted tooth can be partially or wholly unerupted and positioned against another tooth, bone, or soft tissue so that it is unlikely to erupt.² The reason for deflection of the tooth, preventing it from its normal path of eruption, can be due to lack of space, crowding of teeth, dense overlying bone, an aberrant path of eruption, or abnormal toothbud position.³

The incidence of impacted teeth occur in the following order of frequency- Maxillary third molar, mandibular third molar, maxillary canine, mandibular bicuspid, mandibular canine, maxillary bicuspid, maxillary canine, and maxillary lateral incisor.⁴ In the mandible, the most common location for impacted third molar is in the ascending ramus, while in the maxilla, the teeth may be displaced as far as the floor of the orbit.⁵

According to Winter's classification, patterns of angulation for third molar impaction can be horizontal, vertical, mesioangular, distoangular, buccolingual, and inverted.¹ An inverted maxillary tooth is said to be one

that has its root apex facing towards the alveolar crest and crown facing upwards towards the maxillary sinus.⁶ The occurrence of the inverted maxillary third molar is an unusual phenomenon and not commonly encountered.⁷

This paper presents a rare case of successful surgical extraction of inverted and impacted maxillary third molar in-toto.

Case Report

A 40- year- old male patient reported to the department of oral and maxillofacial surgery, PARAS HMRI hospital, Patna, with the chief complaint of pain and slight discomfort in the upper right back tooth region for one month. The pain was of mild intensity. An intraoral clinical examination revealed the absence of clinical crown exposure of the right third molar. Further radiographic evaluation by OPG revealed an impacted and inverted right maxillary third molar. The patient was informed about the impacted tooth, and informed consent for its removal under local anesthesia was taken.

The treatment procedure included planned surgical removal of the impacted maxillary third molar. An incision was given on the crest of the ridge with a releasing incision towards the distal aspect of the second molar. The buccal cortical plate of the bone overlying the maxillary third molar was removed with a round bur. The tooth was luxated and removed in-toto. The socket was irrigated with normal saline, and an interrupted suture was given with 3-0 silk. Post extraction instructions were given to the patient. After one week, the suture was removed, and healing was assessed.



Figure 1: OPG Depicting an Inverted and Impacted Right Maxillary Third Molar



Figure 2: Surgically Extracted third Molar

Discussion

The inversion of the third molar, either in the maxilla or mandible, is an infrequent occurrence.⁶ Inversion can be defined as “ the malposition of a tooth in which the tooth has reversed and is positioned upside down”.⁸ The reason for inversion is the atypical or abnormal proliferation of odontogenic epithelium before tooth germ development.⁶

The removal of maxillary inverted and impacted teeth requires a thorough clinical and radiographic examination of the patient and an assessment of the tooth’s difficulty index.⁴

The classification of impacted teeth would help the clinician determine the probabilities of impaction and the complications associated with impacted tooth removal.² Maxillary third molar can be classified based on their anatomical position according to their relative depth in bone (Class A, B, and C), with respect to the long axis of the maxillary second molar (Position I, II, and III) and according to the relationship of the maxillary sinus (Sinus approximation or no sinus approximation).⁹

According to the Relative Depth of Maxillary Molar in Bone-[4]

1. **Class A:** The lowest portion of the crown of the impacted maxillary third molar is in line with the occlusal plane of the maxillary second molar.
2. **Class B:** The lowest portion of the crown of the impacted maxillary third molar is between the occlusal plane of the maxillary second molar.
3. **Class C:** The lowest portion of the crown of the impacted maxillary third molar is at or above the cervical line of the maxillary second molar.

According to the position of the long axis of the impacted maxillary third molar with respect to the long axis of the maxillary second molar-[4]

1. Mesioangular
2. Distoangular
3. Vertical
4. Horizontal
5. Buccoversion
6. Linguoversion
7. Inverted

According to the Relationship of the Impacted Maxillary Third Molar to Maxillary Sinus-[4]

1. **Sinus approximation:** There is no bone or a thin portion of the bone between the impacted maxillary third molar, and maxillary sinus is known as maxillary sinus approximation.
2. **No sinus approximation:** There is 2 mm or more of bone between the impacted maxillary third molar and maxillary sinus.

The removal of impacted and inverted maxillary third molar is a challenging job for the oral and maxillofacial surgeons because their occurrence is rare, and they are not in routine daily practice. Caution must be exerted during the removal of inverted and impacted maxillary third molar due to the complex relation of the crown of an inverted maxillary molar with the maxillary sinus floor.⁷

No exact or specific treatment protocol for inverted teeth removal is available in the literature. In cases where the tooth is impacted and inversion is in the maxilla, extraction becomes a complicated process because of its inaccessible position in the arch, and a need for exhaustive bone removal.⁶ It can often lead to certain surgical complications, such as loss of excessive bone and nerve damage.⁵

Removal of inverted and impacted maxillary third molar should be carefully weighed with the benefits of retaining the tooth. Management of impacted tooth should be done conservatively, and if surgical removal is planned due to the tooth being symptomatic, the risks associated with inversion and surgical complications during removal should be weighed.⁶

Conclusion

Treatment of inverted impacted third molar depends upon the patient's complaint and associated pathology with the tooth. As long as the patient is asymptomatic, conservative management is by far the best approach. Surgical intervention must be carried out after careful assessment of the risk and benefits associated with surgical removal.

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