

## FIRST PERMANENT MANDIBULAR MOLAR IMPACTION - A CASE REPORT

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### ABSTRACT

Any tooth may be found impacted in the dental arch however impaction of first molar is rare. A rare case of impaction of lower first permanent molar in a 13 year old girl is discussed here

**KEY WORDS:** Impaction, First molar.

### INTRODUCTION

Dental impaction is defined as a condition in which a tooth is prevented from eruption by some physical barrier in the eruption path<sup>1</sup>. Any tooth may be impacted either in maxillary or mandibular arch. Upper and lower third molars and upper canines are most frequently impacted followed by premolars and supernumerary teeth<sup>1</sup>. However impaction of first molar is a rare condition. First molar impaction can create problems with esthetics, masticatory function and dental arch stability.

### Case report

A 13 year old girl reported to Department of Orthodontics and Dentofacial Orthopedics, complaining of improper mastication and irregular teeth.

On examination, the patient was found to be medically fit and healthy. Extra-oral examination showed that the patient had a Class I skeletal relationship and competent lips. Intra-orally the left mandibular molar was grossly carious and the right molar was impacted (**Fig. 1**). An I.O.P.A view was advised. The I.O.P.A view showed that the right mandibular first molar was vertically impacted. The right mandibular second premolar had a distal inclination and second molar had a mesial inclination leading to lack of space for eruption of the first molar (**Fig. 2**).

### Discussion

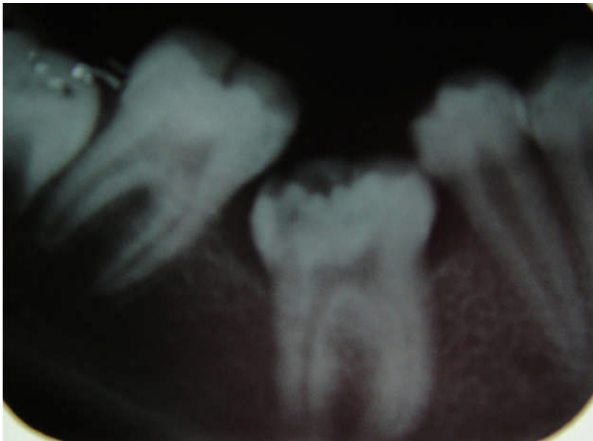
Impaction of permanent lower first molar is rare and there are limited number of studies regarding its incidence and prevalence. Dachi and Howell examined 4745 patients and found that there were no impactions of the

maxillary first molar and only three impacted mandibular first molars<sup>2</sup>. Grover and Lorton surveyed 5000 panoramic radiographs of Army recruits and reported only one maxillary impacted molar but no instance of impacted mandibular first molar was found<sup>3</sup>. The various causes of impaction of tooth include trauma, lack of space, obstruction by overlying bone or excessive soft tissue, iatrogenic and idiopathic<sup>4</sup>.

An impacted first molar can cause root resorption, caries and periodontal breakdown of adjacent teeth. Various treatment modalities have been suggested for impaction of first permanent molar<sup>5</sup>. If the position of impacted first permanent molar is favorable, surgical uncovering, banding and bracketing, followed by orthodontic uprighting and forced eruption can be performed



**Fig. 1.**  
1. occlusal view of mandibular arch showing impacted right first molar.



**Fig.2. IOPA View showing the impacted Right First molar**

Other options include removal of the tooth, opening a follicle that may impede normal eruption, transplantation of the tooth and under certain circumstances long term observation. Contraindications of surgical removal include extreme age, compromised medical status and probable excessive damage to adjacent structure<sup>6</sup>.

In this particular case an orthodontic treatment was planned for the patient. The plan was to upright the adjacent teeth and orthodontically extrude the first molar. However the patient was not willing for the long orthodontic treatment. Surgical extraction of first permanent molar would have resulted in a large defect in the impaction area and there was possible danger of damaging the inferior alveolar nerve. The patient was therefore advised to have the area of lower first molar examined routinely.

## CONCLUSION

Case report of an impacted mandibular first molar in 13 year old girl is discussed along with its prevalence, causes and treatment options

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