

Pattern and Prevalence of Mandibular Third Molar Impaction in Bihar

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ABSTRACT

Background: Teeth become impacted when they fail to erupt or develop in their proper functional location; of all teeth, mandibular third molars are the most frequently impacted. The present study was conducted to evaluate mandibular third molar impaction in Bihar

Materials & Methods: This study was conducted on 170 patient reported to department with pain in mandibular third molar. The position and level of the impacted teeth were assessed using the Pell and Gregory classification. Results thus obtained were subjected to statistical analysis.

Results: Out of 170 patients, 105 (61.7%) had mandibular third molar impaction. Out of 105 patients, males were 65 and females were 40. Common type of impaction was mesio- angular seen in 62, disto- angular in 14, horizontal in 20 and vertical in 9. The difference was significant ($P < 0.05$). The level of third molar was level A in 23%, level B in 68% and level C in 9%. Ramus relationship was class I in 20%, class II in 52% and class III in 28%. The difference was significant ($P < 0.05$).

Conclusion: Authors found that most common type of impaction was mesio- angular and level B and class II was most common level and depth of impaction.

Keywords: Impaction, mesio- angular, Third molar.

INTRODUCTION

The word impaction is originated from the Latin word "impact" means organ or structure, which because of an abnormal mechanical condition has been prevented from assuming its normal position. Teeth become impacted when they fail to erupt or develop in their proper functional location; of all teeth, mandibular third molars are the most frequently impacted.¹

Etiology may be multifactorial usually due to adjacent teeth, dense overlying bone or soft tissue, size of the mandible or maxilla with the resultant lack of space in the jaw, aberrant path of the eruption, abnormal positioning of tooth bud, differential root growth between the mesial and distal roots, or pathological lesions.² Impacted teeth

can lead to impaction of food, pericoronitis, caries, pain, and development of pathology. Therefore, impacted third molar prophylactic removal is becoming a common practice nowadays.³

The Pell and Gregory classification system is one of the common methods used to assess the level of third molar impaction where the impacted third molars are assessed in relation to the neighbouring second molars.⁴ Class I was labeled to a tooth which was present anterior to the anterior border of the mandible. Class II was labeled when tooth was half covered by the anterior border of mandible. When the crown was fully covered by the anterior border of mandible, it was labeled as Class III.⁵ The present

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study was conducted to evaluate mandibular third molar impaction in Bihar.

MATERIALS & METHODS

This study was conducted in department of Oral Surgery. It comprised of 170 patient reported to department with pain in mandibular third molar in both genders. Ethical clearance was obtained prior to the study. All patients were informed regarding the study and written consent was obtained.

Patient's information such as name, age, gender, etc. was recorded. A thorough clinical examination was done. The angulation was assessed using Winter's classification. The position and level of the impacted teeth were assessed using the Pell and Gregory classification. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table 1: Prevalence of mandibular third molar impaction.

Total	Impacted	Percentage
170	105	61.7%

Table I shows that out of 170 patients, 105 (61.7%) had mandibular third molar impaction.

Table 2: Distribution of patients.

Total- 105		
Gender	Males	Females
Number	65	40

Table II shows that out of 105 patients, males were 65 and females were 40.

Table 3: Type of impaction.

Type	Number	P value
Mesio- angular	62	0.01
Disto- angular	14	
Horizontal	20	
Vertical	9	

Table III shows that common type of impaction was mesio- angular seen in 62, disto- angular in 14,

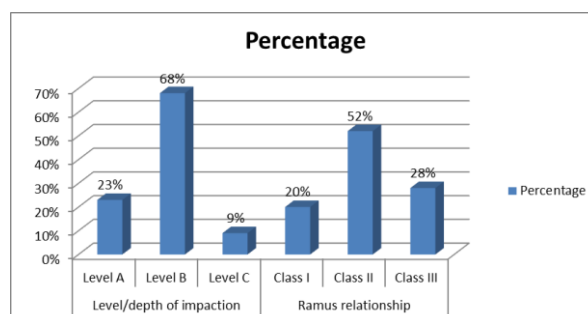
horizontal in 20 and vertical in 9. The difference was significant ($P < 0.05$).

Table 4: Different level and class of impacted teeth.

Third molar	Parameter	Percentage	P value
Level/depth of impaction	Level A	23%	0.01
	Level B	68%	
	Level C	9%	
Ramus relationship	Class I	20%	0.05
	Class II	52%	
	Class III	28%	

Table IV, graph I shows that level of third molar was level A in 23%, level B in 68% and level C in 9%. Ramus relationship was class I in 20%, class II in 52% and class III in 28%. The difference was significant ($P < 0.05$).

Graph 1: Different level and class of impacted teeth.



DISCUSSION

Impacted tooth is a tooth which is completely or partially unerupted and is positioned against another tooth, bone or soft tissue so that its further eruption is unlikely, described according to its anatomic position.⁶ The third molar impaction is occurring in about 73% of the young adults in Europe, these teeth generally erupt between the ages of 17 and 21 years. Factors such as the nature of the diet that may lead to attrition, reduced mesiodistal crown diameter, degree of use of the masticatory apparatus and genetic inheritance also affect the timing of third molar eruption.⁷ The present study was conducted to evaluate mandibular third molar impaction.

In present study, out of 170 patients, 105 (61.7%) had mandibular third molar impaction. Out of 105 patients, males were 65 and females were 40. Anquidy et al⁸ found that of the study population,

543 (54.3%) OPGs showed at least one impacted third molar. The total number of impacted molars was 1,128. The most common number of impacted third molars was two (41%). The most common angulation of impaction in the mandible was the mesio-angular (35%) and the most common level of impaction in the mandible was level A. Of the 388 bilateral occurrences of impacted third molars, 377 were in the mandible. There was no significant difference in the frequency of impaction between the right and left sides of both jaws. Pathological conditions associated with impacted lower third molars were found in 18%, of which 14% were associated with a radiographic radiolucency of more than 2.5 mm, and 4% of impacted lower third molars were associated with dental caries.

We found that common type of impaction was mesio- angular seen in 62, disto- angular in 14, horizontal in 20 and vertical in 9. Level of third molar was level A in 23%, level B in 68% and level C in 9%. Ramus relationship was class I in 20%, class II in 52% and class III in 28%.

Kumar et al⁹ the average age of these patients in the study was found to be 30 years, with the 20 to 30 years age group being the most affected (67.4%). Females (53.3%) were affected more than the males (46.7%). People from the Asmara region showed significantly more prevalence (79.7%) than the adjoining areas (20.3%). Mesio-angular impaction was the most common angulation with a definite relationship to the age groups ($p = 0.032$). The level of impaction had no significant relationship to the age groups, gender, or region, although class I position A was found to be the most common type. Mesio-angular class I position A impaction showed an apparent relationship with underlying systemic conditions, but it was statistically insignificant. Mesio-angular impaction was found to be associated with the most number of pathologies.

Passi et al¹⁰ found that out of 960 patients with the third molar investigated, a total of 250 patients having impacted mandibular third molar (152 [60.8%] males and 98 [39.2%]) females between June 2014 and June 2016 were included in the study. The age ranged from 20 to 55 years, with a mean age of 27.6 years and the standard deviation was 5.8 years. The prevalence of impacted mandibular third molars for this study was 26.04%.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

CONCLUSION

Authors found that most common type of impaction was mesio- angular and level B and class II was most common level and depth of impaction.

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