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## ORIGINAL RESEARCH

### Is it justified to extract Third Molars Prophylactically??- A Clinical Study

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#### ABSTRACT:

**Background:** Impacted third molars or wisdom teeth are the most common developmental conditions affecting humans. The present study was conducted to assess the cases of prophylactically removal of mandibular third molars. **Materials & Methods:** The present study was conducted on 210 patients with symptomatic impacted 380 mandibular third molars of both genders. Patients were divided into 2 groups. Group I was those in which extraction was done (190) and group II was those in which extraction was not done (190). Type of impaction, condition of second molar etc. was reported. **Results:** Mesio- angular impaction was seen in 190, disto- angular in 60, vertical in 80 and horizontal in 50 patients. The difference was significant ( $P < 0.05$ ). In group I, 45 patients had carious second molar while in 120 patients in group II had caries. 12 in group I and 56 in group II had cyst in third molar region. 35 in group I and 134 in group II had distal bone loss wrt second molar. The difference was significant ( $P < 0.05$ ). **Conclusion:** Patients in which third molars were extracted prophylactically had less number of complications and second molar related pathologies.

**Key words:** Impaction, third molar, Prophylactically

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#### INTRODUCTION

Impacted third molars or wisdom teeth are the most common developmental conditions affecting humans.<sup>1</sup> Impacted tooth can be partially or fully impacted, and it is defined in relation to placement in various angles such as mesioangular, distoangular, vertical, or horizontal. In some cases, the eruption of these teeth may be without incident, and they will provide normal function.<sup>2</sup>

Retention of third molars denotes position in which the occlusal plane is not reached on completion of root growth.<sup>3</sup> Tooth of which parts of crown reach the oral cavity or are connected with it through periodontal ligament apparatus of adjacent 2nd molar is said to be partially retained, whereas tooth which lacks connection with oral cavity are fully retained. Impaction refers to a tooth that has remained fully embedded in bone. Tooth is malpositioned of its axis or position deviates from normal

direction. Third molar extraction is one of the most frequent procedures in oral surgery. Reported reasons for the third molar removal includes the risk of impaction as associated with caries, pericoronitis, periodontal defects in the distal surface of third molars, odontogenic cysts, and dental crowding.<sup>4</sup>

The debate centres on whether the health needs of the patient justify the cost of the extraction in terms of the discomfort experienced post-operatively, surgical cost, and the economic burden on government and other non-governmental organizations in some countries that may partly bear the surgical bills. However, the extraction of impacted mandibular third molar in the absence of any pathology is common in Europe and America.<sup>5</sup> The present study was conducted to assess the cases of prophylactically removal of mandibular third molars.

**MATERIALS & METHODS**

The present study comprised of 210 patients with symptomatic impacted 380 mandibular third molars of both genders. The study was approved from institutional ethical committee. All participants were informed regarding the study and written consent was obtained.

Data related to participants such as name, age, gender etc. was recorded. The diagnosis of impacted mandibular third molar and their associated pathology with the condition of

the adjacent second molar was made by clinical and radiological evaluation. Patients were divided into 2 groups. Group I was those in which extraction was done (190) and group II was those in which extraction was not done (190). Type of impaction, condition of second molar etc. was reported. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

	<b>Total- 210</b>	
<b>Gender</b>	<b>Males</b>	<b>Females</b>
Number	90	120
Impacted molars	150	230

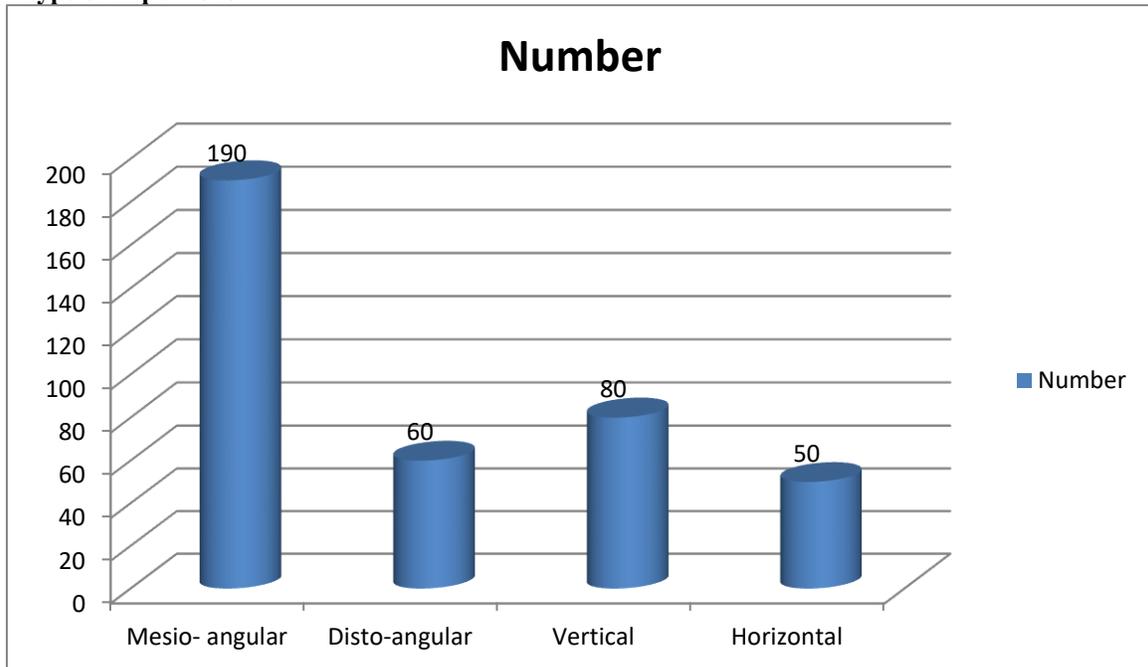
Table I shows that out of 210 participants, males were 90 and females were 120. Males had 150 and females had 230 impacted third molars.

**Table II Type of impactions**

<b>Impactions</b>	<b>Number</b>	<b>P value</b>
Mesio- angular	190	0.05
Disto-angular	60	
Vertical	80	
Horizontal	50	

Table II, graph I shows that mesio- angular impaction was seen in 190, disto- angular in 60, vertical in 80 and horizontal in 50 patients. The difference was significant (P< 0.05).

**Graph I Type of impactions**

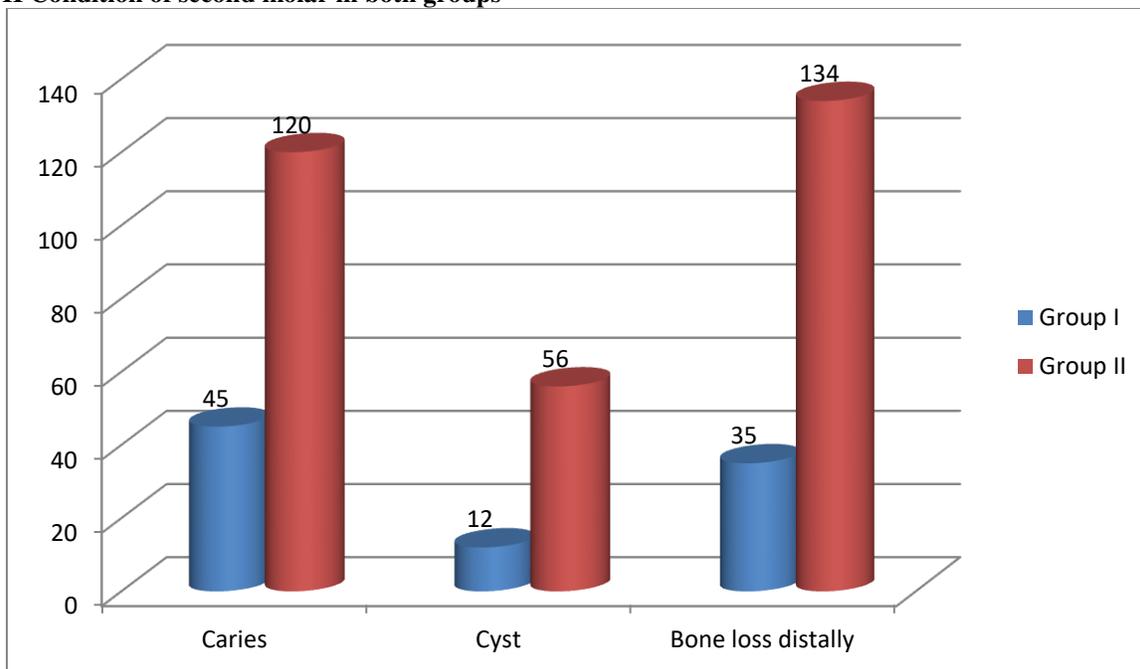


**Table III Condition of second molar in both groups**

Condition	Group I	Group II	P value
Caries	45	120	0.01
Cyst	12	56	0.02
Bone loss distally	35	134	0.03

Table III, graph II shows that in group I, 45 patients had carious second molar while in 120 patients in group II had caries. 12 in group I and 56 in group II had cyst in third molar region. 35 in group I and 134 in group II had distal bone loss wrt second molar. The difference was significant (P< 0.05).

**Graph II Condition of second molar in both groups**



**DISCUSSION**

Removal of the unerupted or impacted third molars is the one of the most common surgical treatment in dental surgery. However, it is most controversial topic, especially when these teeth are asymptomatic.

The National Institute for Clinical Excellence (NICE) guidance on third molar teeth describes the various complications which may occur from the extraction of third molar teeth but does not describe its benefits.<sup>1</sup> Literature has been published since a long time, to study this finding, but NICE guidelines has not changed. There are no specific guidelines to suggest prophylactic removal of third molars to avoid production of complications in future. Current the UK clinical guidelines for treatment of third molars are against the prophylactic removal of clinically asymptomatic healthy impacted teeth.<sup>6</sup>

The problem with impacted mandibular third molars is that they are associated with various disease conditions that affect the mandible, gingiva and adjacent dentition. The pathological conditions that afflicted the impacted third molars and the adjacent second molar may be a direct consequence of the abnormal anatomical relationship

between them because of the impaction.<sup>7</sup> The present study was conducted to assess the cases of prophylactically removal of mandibular third molars.

In this study, out of 210 participants, males were 90 and females were 120. Males had 150 and females had 230 impacted third molars. Knutsson et al<sup>8</sup> in their study found that patients 50 years and above were 33.4%, and those with impaction 22.8%, while the symptomatic cases were in 18.4% patients. The age of the patients ranged from 52 to 84 years with male: female ratio, 2.3:1. In all the asymptomatic impactions, the adjacent second molars were disease-free, whereas 73.6% of the adjacent second molar related to symptomatic cases was asymptomatic. This study showed that 15.9% of impactions in 18.4% of patients were symptomatic and required surgical extraction, whereas the burden of impaction on the adjacent second molar was 26.4%, and these required only preventive and restorative treatments.

We found that mesio- angular impaction was seen in 190, disto- angular in 60, vertical in 80 and horizontal in 50 patients. We observed that in group I, 45 patients had carious second molar while in 120 patients in group II had

caries. 12 in group I and 56 in group II had cyst in third molar region. 35 in group I and 134 in group II had distal bone loss wrt second molar.

Freidman<sup>9</sup> found that males were affected more than females, but the frequency of occurrence decreased as the years increased. In our study also there was male predominance. It may be due to genetic inheritance in relation to the population studied. It is generally agreed that the extraction of symptomatic impacted mandibular third molars is an effective and definitive treatment option to help maintain good patient oral health.

Prevent the exacerbation or late development of mandibular incisor crowding perhaps attributed due to the eruptive forces of the third molar. The risks of development of pathological changes or

sequelae due to the presence of impacted or partially erupted third molars. The more common mandibular third molars are involuntary for extraction for the above reasons. This is likely to be accompanied by the simultaneous sacrifice of maxillary third molars for the prophylactic benefit for avoiding the sequelae which are resulting from the unopposed supraeruption of the opposing tooth.<sup>10</sup>

Stanley et al<sup>11</sup> evaluated the contemporary views and practices regarding prophylactic third molar extractions and shows a significant disparity among younger, middle-aged, and older dentists regarding the age group, investigations, techniques, and etiology pertaining to prophylactic third molar extractions. Majority of the dentists justify prophylactic third molar extractions, among which the number is significantly higher of younger dentists suggestive of the attitudes of the upcoming dental practitioners. Similar differences are noted among the male and female dentists and also among general and specialty dental practitioners.

Complications such as pain, swelling, trismus, and hemorrhage are the most common associated with the longer surgical procedure and deeper impactions. However, these are self-limiting complications that often completely resolve in few days. Alveolar osteitis (dry socket), periodontal damage soft tissue infection, injury to temporomandibular (TMD) joint, malaise, temporary paresthesia (numbness of the lips, tongue, and cheek), permanent paresthesia, fracture of adjacent teeth, fracture of the mandible, fracture of the maxillary sinus are few symptoms.<sup>12</sup>

## CONCLUSION

Authors found patients in which third molars were extracted prophylactically had less number of complications and second molar related pathologies.

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