

## A SURVEY OF REASONS FOR SURGICAL REMOVAL OF IMPACTED MANDIBULAR THIRD MOLAR IN DENTAL CLINICS, NORTH INDIA

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### ABSTRACT

The aim of the study was to evaluate the main reasons for removal of impacted mandibular third molars in the Dental clinics based in Delhi. The study was designed as there are variations in behavior and economic conditions and also the people from different areas of Delhi as well as ethnic groups are representing here, and because no long term studies exists which validate the benefit to patients either of early removal or deliberate retention of these teeth. 75 patients were included in the study, who attended the 4 centre in Delhi for removal of their impacted mandibular third molars. From 75 studied patients the data for 60 fully cooperative patients were collected and results were obtained.

**KEYWORDS:** *Patient, Impacted Mandibular Third Molar, Pain.*

### INTRODUCTION

Mandibular third molar is the most commonly impacted tooth and presents the greatest surgical challenge and controversy when indications for removal are considered, although

there is general agreement that symptomatic third molar that will not erupt normally should be removed.<sup>[1]</sup> The decision, however, is not straightforward, specially if no symptoms are present.<sup>[2]</sup> According to Mercier et al indications and contraindication for removal of asymptomatic wisdom teeth can't be established.<sup>[11]</sup> However, at the consensus development conference, on removal of third molar, it was agreed that the Impaction or malposition of a third molar is an abnormal state and may justify its removal.<sup>[5]</sup>

The impacted mandibular third molar should be removed if eruption is not expected or when no further treatment is possible. Paterson<sup>[3]</sup> & Hinds<sup>[7]</sup> advocate prophylactic extraction of third molar as soon as possible, so that to prevent the subsequent problems such as periodontal pocketing, caries, recurrent peri-coronitis, pressure root resorption of adjacent tooth, odontogenic cyst or tumor formation, pain of unknown origin, fracture of mandible and even to facilitate the orthodontic treatment. The most common indication for removal of im-pacted third molar is pericoronitis. The vertically impacted third molar seems the most likely to develop pericoronitis usually in third decade. The infection accounts for 25% of all pathology<sup>[10]</sup> and is rare over the age of 40 years.<sup>[17]</sup> The second most common indication for removal of impacted mandibular third molar is facial pain or infections.<sup>[17]</sup>

Samsudine<sup>[19]</sup> et al reported 73.7% of patients consulted for removal of third molar due to pain. The impacted mandibular third molar keep pressure on the inferior alveolar nerve may also produce intermittent neuralgic symptoms, frontal and occipital headaches and obscure indefinite sense of pressure, otalgia dentalis and tinitis. Relief from glassopharyngeal neuralgia after removal of impacted mandibular third molar have been reported by Riesman Wahl and Angle described a case of 63 years old patient complaining of drooping of left eyelid, loss of taste sensation, dysphagia and inability to masticate, whose symptoms were alleviated after removal of impacted mandibular third molar.

Douglas also reported that patients cured from mania-depressive insanity after removal of impacted tooth. The impacted mandibular third molar performs no masticatory function, but sometime is a source of complications; therefore, non-functioning impacted third molar should be removed during teens to decrease the incidence of postoperative morbidity. Osborn suggested that one should evaluate patients for third molar removal by the time the skeletal growth is completed at 16 to 18 years of age.<sup>[12]</sup> Lytel in (1979) recommended removal of impacted third molars in preparation for radiation of the jaw.

The role of impacted mandibular third molars in the crowding of lower incisor is extremely controversial.<sup>[17]</sup> However, the lower incisors crowding becomes worst due to impacted third molars, therefore, removal of impacted third molar is indicated in severe lower anterior crowding.<sup>[9]</sup> Impacted mandibular third molar may be associated with an increased risk of angle fracture of mandible. When present in fracture line may cause complications in the treatment of fracture.<sup>[12]</sup> Therefore, these teeth should be removed before reduction and fixation of fracture to prevent the subsequent complications. The position of an impacted tooth may cause food entrapment, which contributes to caries development in the adjacent tooth,<sup>[19]</sup> Pressure root resorption or periodontal pocketing in the area. The removal of tooth should be considered especially if root resorption of adjacent tooth is noted<sup>[14]</sup> the early removal of impacted lower third molar may also improve the prognosis of treatment for adjacent tooth.

When third molar eruption is slow, there may be a cyst formation due to continued exposure of dental follicle to infection. The cyst may develop to a large size and may enclose the crown of the tooth as dentigerous or it may be of periodontal variety. The reported incidence of cyst formation ranges between 0.001% and 11% and of odontogenic tumor is between 0.003-2%.<sup>[14]</sup> These events have frequently been cited as a reason for removal of asymptomatic teeth.<sup>[17]</sup> In some instances, the impacted third molars may be the etiology of TMJ dysfunction Syndrome and removal of impacted third molars may eliminate the complaints.<sup>[1]</sup> Hayward & Reed<sup>[6]</sup> (1979) recorded TMJ Maladies due to defective contact produced by impacted third molars. The indications for transplantation of teeth are becoming rare, however permanent teeth, for example, third molars have the optimal development to serve as donor teeth only between 15 and 25 years of age.<sup>[1]</sup> The most successful transplants are usually those in which the root formation is not completed and the apex is not mature and closed. Mandibular third molars can be removed and transplanted in place of first or second molar.<sup>[1]</sup> During the last two decades, orthognathic sur-gery has established itself as an acceptable form of therapy for patients with cosmetically and function-ally compromising dentofacial deformities. There are different opinions about the removal of impacted/ unerupted mandibular third molars that is whether to remove these teeth prior to or at the actual time of surgery.<sup>[4]</sup> Impacted third molar that exists within the path of proposed Sagittal split ramus osteotomy is indicated for removal 6-12 months before surgery, because of associated pathology such as pericoronitis, cyst and tumor. However, one group of surgeons recommends that all impacted third molars should be removed one year before surgery,

whereas the other group recommends the removal at the actual time of the sagittal split osteotomy.

Retained impacted mandibular third molar may endanger the prosthetic work due to pressure of growth, so should be removed before crowning of second molar. With increasing atrophy of alveolar crest retained teeth may become more superficial and may either interfere with the fit of a full lower denture or cause pain due to either caries or gum infection, therefore retained impacted mandibular third molar in an edentulous jaw should be considered for removal. In addition the retained wisdom teeth can influence the occlusion because of over eruption of antagonist and may cause disturbance in occlusal equilibrium. This complication is also possible due to mesial pressure of impacted mandibular third molar.

## RESULTS

The results of this study showed that pain was the most common reason responsible to seek treatment, i.e., in 45 patients (75%). The second, most common presented complain we found in the study was recurrent pericoronitis in 10 patients, i.e., (16.6%). The specific caries rate in our study was surprisingly low [in only three patients], i.e., (5%). Only 2 patients (3%) were a symptomatic. Of the two cases one patient was treated for prophylactic purpose due to the nature of the job of patient and another symptomatic patient referred to us by orthodontist.

**Table-1.**

S.NO	Presenting complaint	No of patients	Percentage
1	Pain	45	75%
2	Inflammation	10	16.6%
3	Caries	3	5%
4	Orthodontic	1	1.7%
5	Prophylactic	1	1.7%
Total		60	100%

## DISCUSSION

Mandibular third molars are of clinical interest from the time, they are formed until they are removed. Wisdom teeth account for 98% of all impactions, as they are the last teeth of permanent series to erupt. It has been observed that the condition is more common in male (93%) as compared to the female (7%) in this study. The exact explanation for higher incidence in male in our study is unknown, but it is probably related to the fact that our society is male dominant and the males have more opportunities to seek medical and dental

advice as compared to females. The onset of disease presentation is almost parallel to previous studies. Regarding age the majority of patients (n=44) in this study were between 20-30 years with a mean age of 27 years. We found 10.6% differences regarding the side of impaction. Right side cases were found more than left side, i.e., 32 v 28 in this study. Pain was the most common factor responsible to seek treatment (75%). Samsudine<sup>[19]</sup> et al reported 73.7% of patients consulted for removal of third molars due to pain. Laskin<sup>[3]</sup> et al found caries as a common finding in partially erupted third molars, but in our study surprisingly the specific caries rate was 5%. The second most common presenting complaint was recurrent pericoronitis in 10 Patients (16.6%). Leone<sup>[10]</sup> in a study on pericoronitis stated that partially erupted third molar is the most likely candidate for pericoronitis because of retaining bacteria, darkness, moisture under the flap and particularly difficulty in maintenance of proper oral hygiene. Fifty-eight cases (97%) of impacted mandibular third molar in this study were symptomatic, and two (3%) were asymptomatic. Of two cases (3%), one patient (1.6%) was treated for prophylactic purposes due to nature of his job and another patient (1.6%) was referred by orthodontist.

## CONCLUSION

The impaction of tooth is as old as the dental medicine itself. The mandibular third molar and its impaction is of utmost importance in the field of oral and maxillofacial surgery, because its retention gives too many complications such as pain, swelling, pericoronitis, caries, neuralgias, pressure resorption of adjacent tooth and even though may be a source of cyst and tumour formation. The treatment of choice for impacted mandibular third molar remains its surgical removal except one condition, i.e., when the tooth is erupting vertically and the distance between center of ramus and distal surface of second molar is 30 mm or more.

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