



PROPHYLACTIC REMOVAL OF IMPACTED MANDIBULAR THIRD MOLAR – A DILEMMA

Dental Science

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ABSTRACT

Introduction: Impacted mandibular third molar is one of the most common condition seen in Oral & Maxillofacial Surgery Practice. Its removal at a young age presents a dilemma for the surgeon.

Objective: To evaluate the need for the removal of impacted mandibular third molars in patients 50 years and above, and its affect on the adjacent second molar.

Methods: After clinical and radiological examination of impacted mandibular third molar and their associated pathology and the clinical condition of the adjacent second molar, the data regarding the type of impaction and the reason for surgical extraction was obtained.

Results: Patients 50 years and above were 37.8%, and those with impaction 23.9%, while the symptomatic cases were 14.7%. 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 73.9% of the adjacent second molar related to symptomatic cases were asymptomatic ($P=0.001$).

Conclusion: This study showed that 14.7% of impactions in 23.9% of patients were symptomatic and required surgical extraction. 26.4% of the adjacent second molars required preventive and restorative treatments.

KEYWORDS

Mandible, impaction, second molar, third molar, prognosis.

INTRODUCTION

Mandibular third molars is the most common impacted tooth with frequency ranging from 22.0% to 66.0%.^{1,3} the prognosis of impacted mandibular third molar cannot be determined immediately at a young age because it is influenced by many local or systemic variables.^{4,6} It is a general consensus that they should be extracted if affected by a disease to relieve patients' pain and discomfort.^{7,8} On the contrary, some recommend extraction even in the absence of any pathological condition as it plays no functional role.^{9,11} However, there is no consensus in this regard.^{9,12} The question regarding early surgical intervention young adults is justified or not in asymptomatic cases is still a dilemma? The debate whether the health needs of the patient justifies the mental, physical and economic trauma of extraction postoperatively. The extraction of impacted mandibular third molar in the absence of any pathology is common in Europe and America.^{10,12} In our Hospital, mandibular third molars are removed only if involved in disease.^{13,14} However, a detailed study is required to address the issue. This study evaluates impacted mandibular third molars in patients 50 years and above, and determines their impact on the dentition particularly the second molar.

Patients and methods

Patients 50 years and above with symptomatic impacted mandibular third molars reporting to the department of Oral & Maxillofacial Surgery were evaluated, and their effect on the adjacent second molar was assessed. Written informed consent was obtained from all the subjects. The diagnosis of the impaction and the associated pathology was made by an Orthopantomogram. Those patients who were below 50 years or had lost the adjacent mandibular second molar were excluded from the study. The data obtained were recorded in a pro-forma and included age, sex, type of impaction, reason for surgical extraction, and the clinical condition of the adjacent second molar tooth. The data were analyzed with EPI Info 2008 version software (CDC, Atlanta, GA, USA). Analysis included simple frequency charts, descriptive statistics and test of significance. P values < 0.05 are considered significant.

RESULTS

Overall, 2724 patients were seen during the study period; those 50 years and above were 1031(37.8%). Patients who had impacted

mandibular third molars were 247/1031 (23.9%) with 313 impactions, while those that were symptomatic were seen in 46/247(18.6%) patients. The symptomatic third molars that required surgical extraction were unilateral in all cases ($n=46/313$, 14.7%). The reasons for surgical intervention were dental caries and its sequelae ($n=34$, 73.9%), chronic gingivitis ($n=5$, 10.8%) and pericoronitis ($n=7$, 15.2%). The age of the patients ranged from 50 to 84 years with mean as 63.6 years. The distribution of impacted third molar in relation to age and sex is shown in table 1. There were more males than females with male: female ratio of 2.3:1. Males out-numbered females in all the age categories ($P=0.001$). As the age increased, patients with symptomatic impacted third molars decreased, and this was significant ($P=0.01$). Mesio-angular impaction was the most common type of impaction in this series ($n=25$, 54.3%). In all the asymptomatic impacted third molars, the adjacent second molars were disease-free. The adjacent second molar tooth related to symptomatic cases showed 34/46 (73.9%) to be asymptomatic ($P=0.001$), while the symptomatic second molars were 12/46 (26.1%). The symptomatic cases ($n=12$) were treated with amalgam restoration ($n=6$, 50%), Root Canal Treatment ($n=4$, 33.3%), scaling and polishing ($n=2$, 16.6%)

DISTRIBUTION OF SYMPTOMATIC IMPACTED MANDIBULAR THIRD MOLAR IN RELATION TO AGE & SEX

Type of impaction	Age in years (%)				Sex		Total
	50-59	60-69	70-79	80-89	Male	Female	
Mesioangular	12 (26.1)	7(15.2)	5(10.1)	2(4.3)	17 (36.9)	8(17.4)	25 (54.3)
Vertical	5 (10.1)	5(10.1)	2(4.3)	1(2.1)	9(19.6)	3(6.5)	12 (26.1)
Distoangular	3(6.5)	0(0.0)	0(0.0)	0(0.0)	4(8.7)	2(4.3)	6(13.0)
Horizontal	3(6.5)	1(2.1)	0(0.0)	0(0.0)	2(4.3)	1(2.1)	3(6.5)
	23(50)	13 (28.2)	7(15.2)	3(6.5)	32 (69.6)	14 (30.4)	46(100)

DISCUSSION

This study showed that 18.6% of impacted mandibular third molars in 23.9% of patients were symptomatic, and were surgically removed. In addition 26.1% of the adjacent second molars required preventive and restorative treatments, whereas 73.9% were disease-free. Hence, it can

be said that early surgical intervention in all cases of impaction, unless symptomatic is not justified. This finding supports some earlier views,^{10, 12, 16} Minimizing the risk of disease development, reduction of probability of mandibular angle fracture, difficulty of surgery with increasing age and vestigial third molars are some of the reasons advocated for prophylactic removal in young adults.^{17, 18} The proponents advocate that the psychological trauma, loss of working hours and the surgical inflammatory responses such as pain, swelling and trismus will always be present after the surgery regardless of age in addition to the post-operative complications.^{7,12} Impacted mandibular third molars are associated with various disease conditions that affect the intraoral tissues in general and the adjacent second molar in particular.^{2,13} It is not clear if the age-associated risk of disease²⁰ (i.e., the more elderly the patient, the greater the apparent risk posed by impacted mandibular third molars) is due to the increased possibility of bacterial accumulation and tissue inflammation with time. This was one of the main reasons why this study was conducted upon this age category. Mesioangular impaction was the most common type of impaction in this series which is in concurrence with other studies.²

³This study has provided a guide whether the risks of retaining impacted mandibular third molars outweigh the risks of extraction. The AAOMS White Paper cautions that retained third molars, impacted or otherwise, require routine clinical observation.¹⁹ This study showed that males were affected more than females, but the frequency of occurrence decreased as the years increased. The gender mostly affected is not conclusive in the literature.^{3,5,6,18,21} one conclusion that is accepted is that the removal of symptomatic third molars is necessary for good oral health.

CONCLUSION

The study showed that 18.6% of impacted mandibular third molars in 23.9% of patients were symptomatic, and were surgically removed and only 26.1% of the adjacent second molars required treatments. This suggests that the removal of an asymptomatic third molar is not advocated. However, the extraction of symptomatic impacted mandibular third molars is an effective and definitive treatment to help maintain good patient oral health.

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