



CODEN [USA]: IAJPB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1991231>Available online at: <http://www.iajps.com>

Research Article

**ANALYSIS OF FREQUENCY OF COMMON PATHOLOGIES
ASSOCIATED WITH MANDIBULAR THIRD MOLAR TEETH**¹Dr. Hina Badar, ²Dr. Nida Jaleel, ²Dr. Anam Khalid¹University College of Dentistry, Lahore²Punjab Dental Hospital, Lahore**Abstract**

Introduction: Although recent studies have investigated the benefits of prophylactic extraction of impacted mandibular third molars (IMTMs), the indications for this procedure remain controversial because surgical extraction can result in numerous complications, including nerve damage, infection, and impaired healing in older patients.

Aims and objectives: The basic aim of the study is to analyze the frequency of common pathologies associated with mandibular third molar teeth.

Material and methods: This study was conducted at Punjab dental hospital, Lahore during 2017 to 2018. 100 patients of both genders was selected for this study. The decision on extraction was made by patients after being informed of surgical risks such as nerve damage, infection, and delayed healing. The patients were also informed about the potential risk of un extracted IMTMs.

Results: The prevalence of cysts or tumors was considerably higher among the male patients than among the female patients, although it should be considered that the number of male patients that underwent extraction of IMTMs was higher than that of female patients (1.32:1). Of the 100 lesions, 75 (76.4 %) were diagnosed as dentigerous cysts, 31 (17.6 %) as keratocystic odontogenic tumors, and 10 (5.7 %) as ameloblastomas.

Conclusion: It is concluded that IMTMs in old aged patients more than 50 years old has high possibilities of developing cyst or tumors especially in male patients.

Corresponding author:**Hina Badar,**

University College of Dentistry, Lahore

QR code



Please cite this article in press Hina Badar et al Analysis of frequency of common pathologies associated with mandibular third molar teeth., Indo Am. J. P. Sci, 2018; 05(12).

INTRODUCTION:

Although recent studies have investigated the benefits of prophylactic extraction of impacted mandibular third molars (IMTMs), the indications for this procedure remain controversial because surgical extraction can result in numerous complications, including nerve damage, infection, and impaired healing in older patients. Indications for therapeutic extraction of impacted third molars include recurrent pericoronitis, cysts, nonrestorable caries lesions, and destruction of adjacent periodontal tissues [1]. There has been much discussion in the literature regarding the prevalence of third molar pathology and extraction. The cost to the individual and to society (in the form of lost productivity), and the morbidity associated with surgery for third molar extraction, seems to form the basis for many investigators to discourage extraction of asymptomatic teeth. So-called prophylactic extraction of third molar teeth has, in fact, been deemed a “public health hazard.” Lack of symptoms has led investigators to recommend retention of third molars; others recommend a watchful waiting approach, and intervention when disease is identified [2].

Teeth that fail to erupt with in the dental arch due to any hindrance in their path of eruption whether it be a bony lesion or soft tissue are known as impacted teeth. The development and eruption of the 3rd molar is the last tooth in the permanent dentition in the oral cavity. Other hindrances such as small posed teeth, lack of space can alter their eruption and make the teeth impacted. The age range of the 3rd molars to erupt is between 16-24 years and the mean age is 17 years. Impactions are equally common in both Males and females [3]. As it has been recognized that third molars that are not fully erupted commonly change position over time (even past the “normal” eruption age), it is prudent to monitor retained teeth for development of pathosis for a lifetime [4]. For example, in one 5-year study where retained third molar teeth were monitored, it was necessary to extract about one-third of them during the time frame of the investigation, and it is still unclear as to whether the majority of third molar teeth can be retained in a reasonable state of health as individuals age [5].

Aims and objectives

The basic aim of the study is to analyze the frequency of common pathologies associated with mandibular third molar teeth.

MATERIAL AND METHODS:

This study was conducted at Punjab dental hospital, Lahore during 2017 to 2018. 100 patients of both genders was selected for this study. The decision on extraction was made by patients after being informed of surgical risks such as nerve damage, infection, and delayed healing. The patients were also informed about the potential risk of an extracted IMTMs. Removed all IMTMs were included in this study, and IMTMs without any pathologic lesion, radiographically a radiolucency less than 3 mm were classified into Group A and IMTMs with pathologies, radiographically a radiolucency more than 3 mm were classified into Group B. All of the Group A patients wanted to extract by their willing and impaction in the bone of IMTM was included and excluded only covered with soft tissue in this study.

The patients were classified according to their age and gender. The prevalence of IMTMs was analyzed for each age group and compared with the overall incidence. For each age of Group B, the prevalence of cysts or tumors was analyzed and compared with the overall prevalence in patients with IMTMs. Male and female predilection was analyzed for each age group, and the Group B patients were classified according to the histopathological results and the corresponding age groups.

Statistical analysis

Student's t-test was performed to evaluate the differences in roughness between groups. Two-way ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

RESULTS:

The prevalence of cysts or tumors was considerably higher among the male patients than among the female patients, although it should be considered that the number of male patients that underwent extraction of IMTMs was higher than that of female patients (1.32:1). Of the 100 lesions, 75 (76.4 %) were diagnosed as dentigerous cysts, 31 (17.6 %) as keratocystic odontogenic tumors, and 10 (5.7 %) as ameloblastomas. Eleven of these lesions were bilateral.

Table 01: Histopathological findings of cysts or tumors adjacent to impacted mandibular third molars

Age	Dentigerous cyst	Kerato-cystic odontogenic tumor	Ameloblastoma	Total
10–19	12	9	1	22
20–29	38	7	3	48
30–39	30	4	1	35
40–49	16	5	1	22
50–59	25	4	0	29
60–69	13	1	4	18
70–	1	1	0	2
Total	135 (76.7 %)	31 (17.6 %)	10 (5.7 %)	176 (100 %)

DISCUSSION:

The indications for prophylactic extraction of asymptomatic impacted third molars remain controversial because of the potential for complications such as postoperative swelling, trismus, fracture, and nerve injury. The indications for therapeutic extraction of impacted third molars include recurrent pericoronitis, cellulitis, abscess, osteomyelitis, follicular diseases such as cysts and tumors, nonrestorable caries, irreversible pulp or periapical pathology, internal or external resorption of adjacent teeth, tooth fracture, interference with impending surgery or reconstructive jaw surgery, and tumor resection [6].

The prevalence in the present study was 0.846 %, which is considerably lower than that reported previously. In addition, the number of patients diagnosed with cysts or tumors was lower in patients aged >30 years. However, the proportion of cyst or tumors associated with IMTMs increased with age. These findings indicate that older patients are at a higher risk of developing cysts or tumors associated with IMTMs [7].

Several theories have been suggested to explain the development of odontogenic cysts such as dentigerous cysts and keratocysticodontogenic tumors [8]. One suggests that long-standing inflammation results of cystic lesions, while another suggests the role of mutations of specific genes [9]. According to these theories, the higher prevalence of cysts or tumors in older age groups is probably a result of sustained long-standing inflammatory processes or the possible accumulation of genetic mutations [10].

CONCLUSION:

It is concluded that IMTMs in old aged patients more than 50 years old has high possibilities of developing cyst or tumors especially in male patients. However,

these results should not be used as the only evidence for justifying prophylactic extraction, and further studies should investigate the survival rate of IMTMs without any pathology in older populations.

REFERENCES:

1. Nordenram A, Hultin M, Kjellman O, Ramstrom G. Indications for surgical removal of the mandibular third molar. Study of 2,630 cases. *Swed Dent J.* 1987;11:23–29.
2. Samsudin AR, Mason DA. Symptoms from impacted wisdom teeth. *Br J Oral Maxillofac Surg.* 1994;32:380. doi: 10.1016/0266-4356(94)90029-9.
3. Selvamani M, Donoghue M, Basandi PS. Analysis of 153 cases of odontogenic cysts in a South Indian sample population: a retrospective study over a decade. *Braz Oral Res.* 2012;26:330–334.
4. Zhang LL, Yang R, Zhang L, Li W, MacDonald-Jankowski D, Poh CF. Dentigerous cyst: a retrospective clinicopathological analysis of 2082 dentigerous cysts in British Columbia, Canada. *Int J Oral Maxillofac Surg.* 2010;39:878–882.
5. Al-Khateeb TH, Bataineh AB. Pathology associated with impacted mandibular third molars in a group of Jordanians. *J Oral Maxillofac Surg.* 2006;64:1598–1602.
6. kul T, Saglam AA, Aydin U, Başak K. Incidence of cystic changes in radiographically normal impacted lower third molar follicles. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2005;99:542–545
7. Brickley M, Kay E, Shepherd JP, Armstrong RA. Decision analysis for lower-third-molar surgery. *Med Decis Mak.* 1995;15:143–151
8. Knutsson K, Brehmer B, Lysell L. Pathoses associated with mandibular third molars subjected to removal. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 1996;82:10–17.

9. Lin HP, Wang YP, Chen HM, Cheng SJ, Sun A, Chiang CP. A clinicopathological study of 338 dentigerous cysts. *J Oral Pathol Med.* 2013;42:462–467.
10. Lysell L, Rohlin M. A study of indications used for removal of the mandibular third molar. *Int J Oral Maxillofac Surg.* 1988;17:161.