Original Research Article

Prevalence of impacted tooth: A radiographic study of 750 cases

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Abstract

Background and Aim: To investigate the prevalence of impacted teeth.

Materials and Methods: A retrospective study of the OPG x ray of 750 patients was done to rule out the impacted tooth in relation to angulation of tooth, age and sex.

Result: OPG x ray of 750 patients were examined from age 17 to 50 years. The Prevalence of impacted teeth were 67.2% among this age group found. Mandibular third molar teeth were encountered most common impacted tooth (62%) followed by maxillary third molar and others.

Conclusion: In our study impacted teeth was more commonly seen in younger population. The mandibular third molars were the most common impacted with mesio angular pattern.

Keywords: Impaction, third molar, maxillary, mandibular, mesio angular.

Introduction

Background and Aim

Tooth impaction is most common phenomenon in jaw. Mandibular third molar are most common impacted tooth. Removal of third molar tooth is most frequent and common minor oral surgical procedure in dentistry. Sometimes patients are free from complain in relation to impacted tooth and it is found accidently either on clinically or radiologically. Sometimes patient have complains in relation to impacted tooth. In few cases, if long retention of impacted tooth may develop adjacent pathological changes also.

The term impaction derived from Latin word impactus. Tooth become impacted due to any hard tissue or soft tissue obstruction during tooth eruption. Any permanent tooth of jaw can be impacted but most common teeth are mandibular third molar [1]. There is desirable variation in prevalence of impacted tooth depending on age, timing of eruption [2-4].

The aim of this study to access the prevalence of impacted tooth based on age, sex, tooth position and its angulation.

Impacted tooth may be due to systemic or local factors such as cleft palate, endocrinal dysfunction, hereditary, lack of space, retained deciduous tooth, ectopic position of tooth bud, jaw abnormalities etc.

Materials and Methods

A retrospective study was an attempt to evaluate the prevalence of impacted tooth. OPG x ray of 750 cases were examined. The age criteria for this study was 17 years to 50 years of age. Patient who had undergone surgically removal of impacted tooth or edentulous patients were not include in this study. Based on OPG x ray records, identified impacted tooth, its position, depth and angulation, adjacent pathologies in relation to impacted tooth.

Result

Total 750 cases were examined who had age 17 years to 50 years. Out of that 438 female patients (59%) and 312 male patients (41%) (Table: 1).We found 504 impacted tooth and 179 patients (23%) have at least one impacted tooth. In our study we found that female have more frequent impacted tooth as compare to male patients. Most common age have impacted tooth

were 17 to 30 years of age (45%) (Table: 2). In this study most common impacted tooth were mandibular third molar (62%), followed by maxillary third molars (33%), other than third molar impacted tooth, few cases as impacted tooth (5%) (Table: 3). Out of mandibular impacted third molar tooth we found right (48 tooth) side (33%) most impacted followed by left (38 tooth) side (29%). In maxillary impacted third molar, both side had almost equal incidence of impacted tooth. Based on angulation mesio angular were most common impacted tooth (45%), followed by horizontal impacted tooth (32%) (Table: 4).In cases of mandibular impacted third molar tooth, Position B (58%) (Table: 5) and Class II (47%) (Table: 6) were most common pattern.

Table 1: Male Feamle ratio

Sex	Percentage
Male	41
Female	59

Table 2: Age groups for Impaction

Age Group	Percentage
17yr-30yr	45
31yr-40yr	33
41yr-50yr	22

Table 3: Distribution of Impacted teeth (n=750)

Impacted tooth		Quantity
Mandibular third molar	Right side (48)	170 (33%)
	Left side (38)	148 (29%)
Maxillary third molar	Right side (18)	90 (17%)
	Left side (28)	82 (16%)
Maxillary canine		7
Mandibular canine		2
Maxillary premolar		1
Mandibular premolar		1
Maxillary incisors		2
Mandibular incisors		1

Table 4: Angulation of Mandibular third molar tooth

Mandibular third molar angulation	
Mesio angular	144 (45%)
Disto angular	45 (15%)
Horizontal	102 (32%)
Vertical	21 (7%)
Others (Buccal/Lingual)	6 (1%)

Table 5: Relation to ramus of mandibular third molar

Position	
Position A	104 (32%)
Position B	183 (58%)
Position C	31 (10%)

Table 6: Occlusal relationship of Mandibular third molar tooth

Occlusal Relation	
Class I	102 (32%)
Class II	152 (47%)
Class III	64 (21%)

Discussion

Impacted tooth are most frequently found in routine dental check-up in younger age population. Out of that few cases are symptomatic and few cases are asymptomatic. OPG X ray are most common radiological diagnostic tools to access impacted tooth in details. The prevalence of impacted tooth in this study was 67.2% and 17-30 years of age patients have high ratio of impacted tooth. More than 45% of patient were aged between 17-30 years. The distribution of impacted teeth were same as previously reported studied with most common were mandibular and maxillary third molars followed by maxillary canines and others [5]. Total 504 number of impacted tooth were accounted in this study, out of these 490 were all third molar tooth.

The prevalence of impacted tooth is reduce with age increase due to extraction of tooth [6]. Distribution of angulation and depth of impacted mandibular third molar tooth shoes almost similar to other studies. In our study 28% patients with impacted tooth were symptomatic where Stanley *et al*., found 8.4% only. Angulation of impacted tooth in relation to second molar tooth have most potential clinical implication as describe by Yamaoka *et al*. [7]. Due to extraction of impacted tooth leads to decrease the prevalence of impacted tooth. Maxillary canine are most common impacted tooth [8] after the third molar impaction, in our study prevalence of maxillary canine as impaction is 1.3%.

Conclusion

The present study was concluded that, impacted tooth can occurs in any jaws either maxilla or mandible but mandibular third molar tooth were most common predilection for impacted tooth and frequently see impacted tooth in younger age group. Along with this most frequent impacted tooth was mesio angular orientation.

Conflict of Interest: Nil

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