

Mandibular third molar impactions in Puducherry South India – A descriptive cross- sectional study for one year.

Dr.S.Devakumari MDS¹, Neil Dominic MDS²

¹(Associate professor , Department of Dentistry, Indira Gandhi medical college & RI , Puducherry, India).

²(Department of Dentistry, Indira Gandhi medical college & RI, Puducherry, India, corresponding author).

Corresponding author: Neil Dominic MDS

Abstract

Aim and objective: To evaluate the prevalence and patterns of third molar impactions treated in IGMC&RI

Materials and methods: Patient treatment records of 150 pts and IOPA were retrieved and analysed for demographic data, type of impaction, aetiology for removal, side of impaction and pathology associated with third molars.

Results: The results proved that vertical is the most common type of impaction, Male more affected than Females , Right side more affected than Left ,Pericoronitis is the most common aetiology and the most common pathology is caries in the second molar.

Date of Submission: 25-02-2019

Date of acceptance:12-03-2019

I. Introduction

Impacted mandibular third molar are of great concern to the general dentists and maxillofacial surgeons as it leads to Pericoronitis, food impaction, dental caries, odontogenic pathologies and predisposes to the fracture of the mandible. The prevalence and patterns of the mandibular third molar impactions in the tertiary care government hospital of Puducherry (IGMC&RI) was conducted to assess the prevalence and patterns of mandibular third molar impactions in Puducherry.

II. Materials And Methods

Patient treatment records and radiographs (IOPA) were retrieved, tabulated and analysed using MS Excel software for proportions of categories studied. This retrospective descriptive cross-sectional study was conducted in 150 patients who were operated in the department of dentistry IGMC&RI, 2018.

Inclusion criteria:

- 17-56 yrs
- Trans-alveolar extraction
- Removal due to prosthodontic reasons
- Removal due to periodontal reasons
- Tooth associated with pathology
- Third molars extracted by closed method

Exclusion criteria:

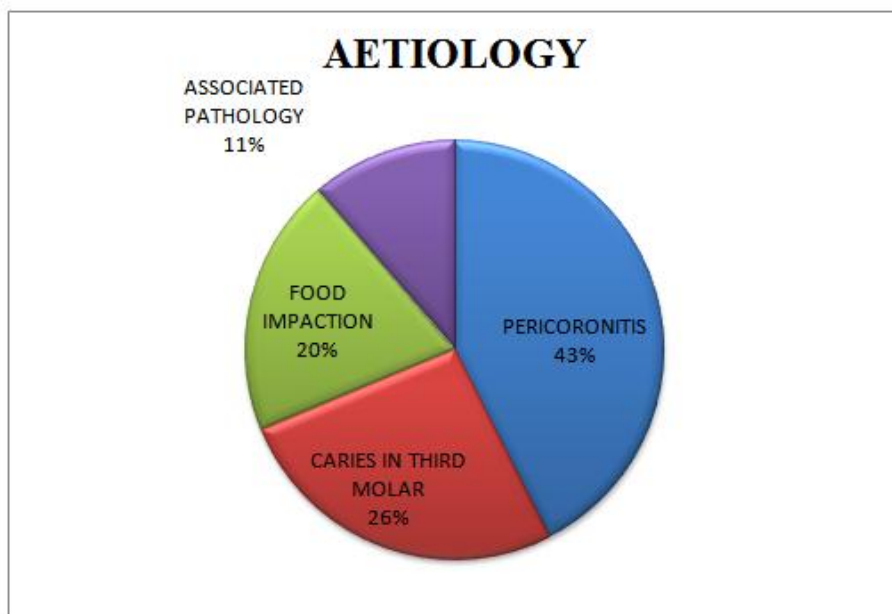
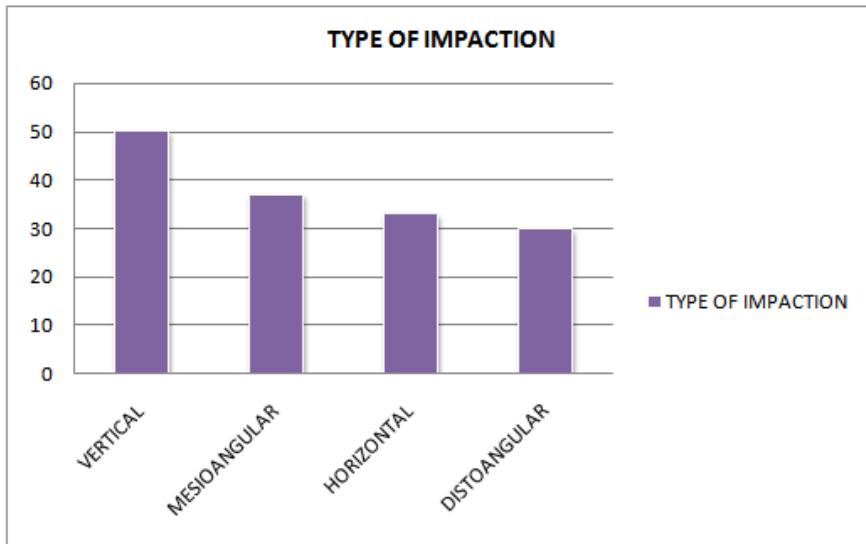
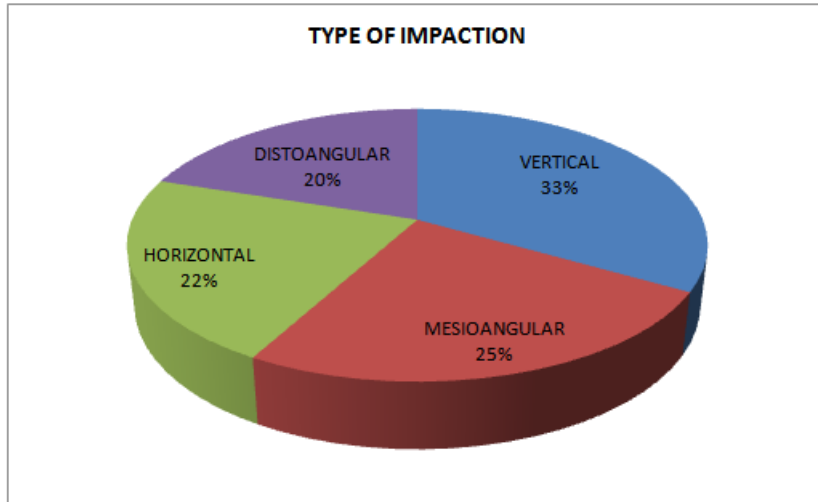
- Tooth associated with fracture mandible
- Removal due to orthodontic reasons

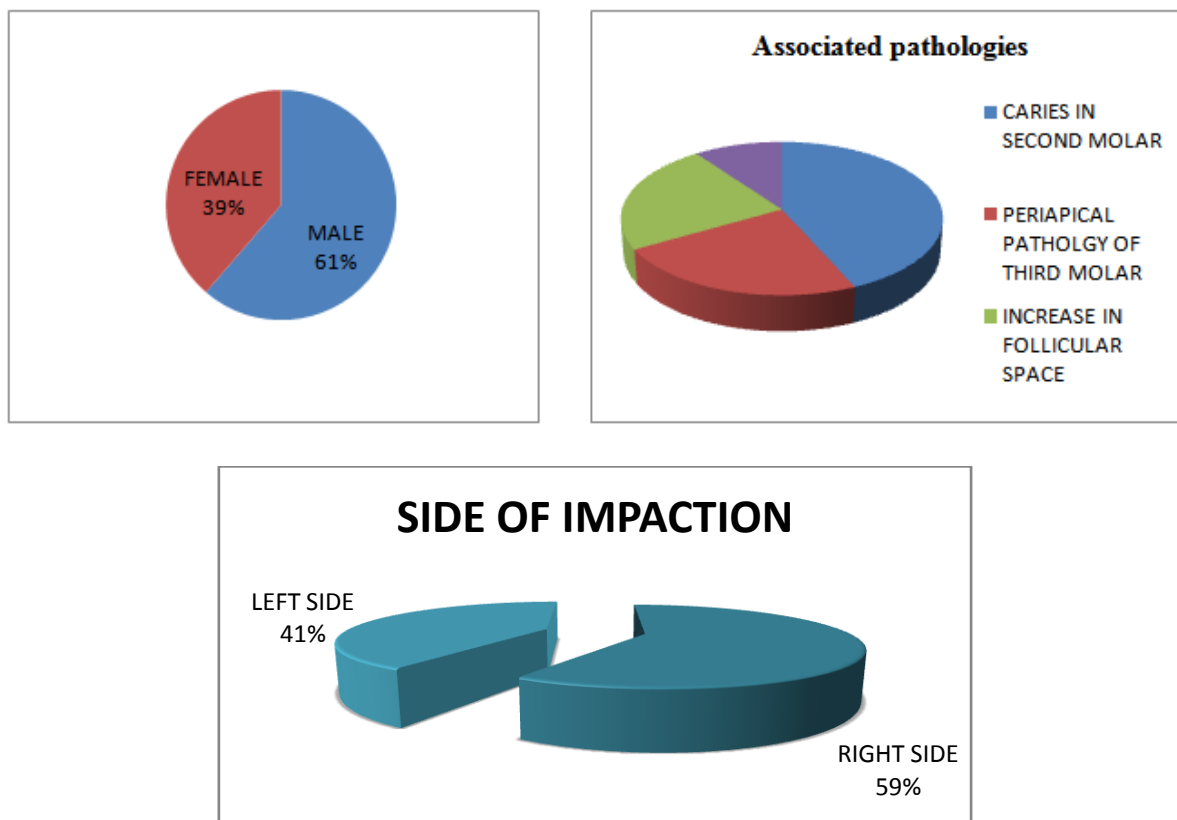
III. Results

On analysing the above data, vertical impaction are the most common type of impaction (33%) followed by mesioangular (25%) and then horizontal (22%) and at last distoangular (20%).

As far as gender is concerned it has a male predominance (male -61%, female -39%). The most common aetiology being Pericoronitis(43%) followed by caries in third molar(26%) and the commonest side of impacted molars surgically removed was right side (59%) ..

Th common pathologies encountered with third molars are caries in second molar (46%), periapical pathology in third molar (20%), increase in follicular space (20%) and associated cysts and tumours(14%).





IV. Discussion

Mandibular third molar surgeries had become routine dento-alveolar surgeries for maxillofacial surgeons. The magnitude of the problem cannot be overlooked due to increase patient overload day by day. The impactions are reported to be next common to dental caries and periodontitis in common dental problems.

The study of prevalence and patterns of mandibular third molar impaction in Puducherry (union territory) in south India was never reported in the literature before. IGMC&RI medical college government hospital is a tertiary care centre with excellent patient reference from in and around Pondicherry. So we took up the study to analyse the prevalence and patterns of mandibular third molar impactions.

The most common type of impaction reported were vertical impactions and the study is consistent with study of venu gopal et al.¹ on south Indian population, Schersten E *et al*² on Swedish dental students, Zohair Haider *et al*³ on Saudi community and D. Rajdan⁴ on Indian population. Studies in Nigeria by Gbotolorun⁵ *et al.* and Obiechina *et al*⁶ Showed that the mesioangular type of impaction was the frequently encountered impacted tooth. Similarly it was also the most common type of impaction among Chinese⁷ (80%) and Korean populations (46.5%). A study in Thailand revealed that out of 680 impacted molar Extractions, 402 teeth were mesioangularly impacted⁸.

As far as gender predilection is concerned our study shows male (61%) preponderance than females (39%). This is not in accordance with Hellman theory which states that female mandible stops growing just after the eruption of the third molars while male mandible continues to grow even after the eruption of the third molars. The theory does not prove to be correct with our study.

Recurrent Pericoronitis is the most common etiology found and this is similar to the study done by Almendros-Marqués *et al*⁹. Bataineh *et al*¹⁰, 2001; Brickley and Shepherd¹¹. On the contrary, Adeyemo *et al*¹². found that caries and its sequelae was the prime reason of extraction, followed by pericoronitis and periodontitis.

The common pathologies encountered with third molars are caries in second molar (46%), periapical pathology in third molar (20%), increase in follicular space (20%) and associated cysts and tumours (14%).

Impacted third molars are always associated with Pericoronitis, periodontitis, caries of third molars, caries of second molars, odontogenic space infections, odontogenic cysts, tumours and fractures of mandible.

The mean eruption age of third molars were 17 to 21 years. When the tooth fails to erupt into the oral cavity it leads to all the above said complications. Prophylactic removal of third molars is not the general norm

followed in country like India. Awareness about this potential problem is minimal in the Indian population . Surgical removal of the third molars were always done if the tooth is symptomatic.

V. Conclusion

The study revealed that vertical impaction is the most common type of impactions. Male more affected than females. Pericoronitis is the most common aetiology for removal of third molars and the common associated pathology being caries in second molars. The study strongly recommends prophylactic removal of potentially impacted mandibular third molars to minimise the postoperative pain and to prevent onset of pathologies.

References

- [1]. venugopal Reddy K, Prasad KVV, Prevalance of third molar impactions in urban population Age 22 to 30 years in South India JIDA Vol 5, No 5, May 2011, 605-11.
- [2]. Shearsten E., Lysell L, Rohlin M. Prevalence of impacted third molars in dental students. *Swedish Dental Journal* 1989; 13 (1-2) : 7-9.
- [3]. Haider Z, Sulliman YS. The incidence of impacted teeth in Saudi community. *Journal of Oral and Maxillofacial Surgery* 1986; 15 (5) : 569-71.
- [4]. Rajdan D. A study of third molar teeth. *J of Indian Dental Association* 1996; 67: 6-11
- [5]. Gbotolorun OM, Olojede AC, Arotiba GT, Ladeinde AL, Akinwande JA and Bamgbose BO (2007).
- [6]. Impacted mandibular third molars: presentation and postoperative complications at the Lagos University Teaching Hospital. *Nig Q J Hosp Med*, 17(1): 26-29.
- [7]. Obiechina AE, Arotiba JT and Fasola AO (2001). Third molar impaction: evaluation of the symptoms and pattern of impaction of mandibular third molar teeth in Nigerians. *Odontostomatol Trop*, 24(93): 22-25..
- [8]. Quek SL, Tay CK, Tay KH, Toh SL and Lim KC (2003). Pattern of third molar impaction in a Singapore Chinese population: a retrospective radiographic survey. *Int J Oral Maxillofac Surg*, 32(5): 548-552.
- [9]. Tudri. S. Incidence of impacted wisdom teeth and complications in Thai community. *J Dental Association Thailand* 1988; 38(4) : 163-9.
- [10]. Almendros-Marqués N, Berini-Aytés L and Gay-Escoda C (2006). Influence of lower third molar position on the incidence of preoperative complications. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*, 102(6): 725-732.
- [11]. Bataineh AB, Albashairah ZS and Hazza'a AM (2002). The surgical removal of mandibular third molars: a study in decision making. *Quintessence Int*, 33(8): 613-617.
- [12]. Brickley MR and Shepherd JP (1996). An investigation of the rationality of lower third molar removal, based on USA National Institutes of Health criteria. *Br Dent J*, 180(7): 249-254.
- [13]. Adeyemo WL, Ogunlewe MO, Ladeinde AL, Abib GT, Gbotolorun OM, Olojede OC and Hassan OO (2006). Prevalence and surgical morbidity of impacted mandibular third molar removal in the aging population: a retrospective study at the Lagos University Teaching Hospital. *Afr J Med Med Sci*, 35(4): 479-483.

Neil Dominic MDS. "Mandibular third molar impactions in Puducherry South India – A descriptive cross- sectional study for one year." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 18, no. 3, 2019, pp 01-04.