

## Post Treatment Complications after Removal of impacted third molar: A Retrospective Study.

### Abstract:

**Introduction:** Removal of third molar is that the most typical intervention performed procedure related to an honest array of complications. the foremost commonly encountered complications are pain, paraesthesia, trismus, swelling and mandibular fractures.

**Aim:** The objective of this study was to study the complication associated with extraction of impacted third molar with age.

**Materials and Method:** All the surgical removal of third molars which were performed within a private clinic during 1-year period from October 2019 – October 2020 were retrospectively analysed and included within the study. Presence of post-operative complications like pain (more than 3 days), paraesthesia, mandibular fracture, Alveolar osteitis (dry socket), bleeding, trismus or edema in conjunction with demographic features and thus the type of impaction was noted. Data was arranged during a tabulated form and analyzed using Epi Info software. Result: There are 59 males and 56 females who underwent transalveolar extraction of third molar. The mean age of females was 47.21 12.2 years and males were 48.32 11.5 years. It had been found that pain was the foremost commonly encountered complication, seen in 57.4% of the patients. Pain was followed by swelling which was seen in 42.2% of the themes. Trismus ranked third, seen in 23.2% of subjects. It was found that pain was most frequently seen among the age group of 20(21.6%) and least frequently seen amongst 20-40 years aged(15.2%).

**Conclusion:** Pain was the foremost common complication followed by swelling and Trismus.

**Keywords:** pain, paraesthesia, third, molar, complication.

### Introduction :

Third molar removal is one of the foremost routinely performed procedures by Oral and Maxillofacial surgeon and one of the foremost feared dental procedures. Good planning and skills, during preoperative diagnosis intraoperative treatment and postoperative management is required.[1] Various factors like patient's age, surgical technique, habits like smoking or drinking alcohol, gender, position of tooth etc influence the type of complication.[2] Complications associated with surgical removal of third molar can range from moderate to severe including alveolitis, infection, paraesthesia of the inferior alveolar nerve, haemorrhage, persistent pain, swelling and edema. variety of the less common complications are trismus, iatrogenic damage to adjacent tooth, temporomandibular joint injury and iatrogenic mandibular fracture.[4] Age of patient and thus the position of the tooth most directly affect the complication rate.[5] Some

authors have shown mesioangular and distoangular impactions have double the possibilities of complication than the opposite tooth position.[8] Possibilities of intraoperative and postoperative complications are thrice more in mandible compared to maxilla this is often due the actual fact that poor blood circulation, more retention of saliva and food particles leading to difficulty in maintaining oral hygiene in mandible. It is also been observed that because the age advances the incidence of complication also increases, this might be due to

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increase in bone density and complete root formation therefore more abnormality in root curvature leading to difficulty in extraction.[4] Most commonly encountered complications are pain, paraesthesia, trismus, swelling and mandibular fracture. The objective of this study was to study the complication associated with extraction of impacted third molar with age.

**Materials and Method:**

This study was conducted during a personal clinical setting. All the cases of surgical removal of third molar which were performed within the private clinic during a period of 1 year from October 2019 – October 2017 were retrospectively analysed and included within the study, 155 cases of surgical removal of mandibular third molar were included. All the data from the patient's document were reviewed and sorted as per the variables included within the study. The demographic data like age, sex, address and socioeconomic status was noted, medical history was also collected. All the cases assessed had a history of medicines, one-hour pre operatively of tablet Augmentin 625 mg as standard antibiotic and Acular 10mg as analgesic agent, postoperatively Augmentin 625 mg was given for 4 days and Acular dosage was prescribed as and when required basis. Radiographs like Ortho Pantomo Graph (OPG), Intra oral peri-apical radiographs and Cone Beam computed tomography had been administered as per the necessity and each one the surgical instruments were sterilised by autoclaving before the procedure. the type of impaction, presence of post-operative complications like pain (more than 3 days), paraesthesia (lips or tongue), mandibular fracture, alveolar osteitis (dry socket), bleeding, trismus or edema had been noted. Pain was recorded by VAS (Visual analogue scale). Slight pain after 3rd day wasn't taken into consideration. All the reported complications were addressed at the earliest possible and managed accordingly. All the patient details were entered during a predefined form. the data was arranged during a tabulated form and analysed using SPSS software. The variables were analysed and P value of but 0.05 was considered significant.

**Result:**

In this study, a complete of 155 subjects were enrolled during which 108 mandibular third molar surgeries were performed. Both unilateral and bilateral impactions were included. Total

of 59 males and 56 females underwent transalveolar extraction of third molar. Amongst which the mean age of females was found 47.21 12.2 years and males were 48.32 11.5 years. Table 1 and Fig. 1 shows the foremost frequently encountered complications and therefore the percentage of every complication. In our study pain was the foremost commonly encountered complication even after the administration of analgesics, seen in 57.4% of the participants. Pain was followed by swelling for a period of three days which was seen in 42.2% of the participants. Trismus ranked third, seen in 23.2% of subjects. Mandibular fracture was the smallest amount common complication following removal of wisdom teeth, seen only in 0.3% of the themes. Transient paraesthesia (lip or tongue) was seen in 7.3% of the themes with a follow up to three weeks.

	Complication	Incidence(n=155)	Percentage(%)
1	Pain	78	50.32
2	Paraesthesia	8	5.16
3	Mandibularfracture	1	0.6
4	Alveolar Osteitis	19	12.25
5	Bleeding	4	2.58
6	Swelling	34	21.9
7	Trismus	11	7.09

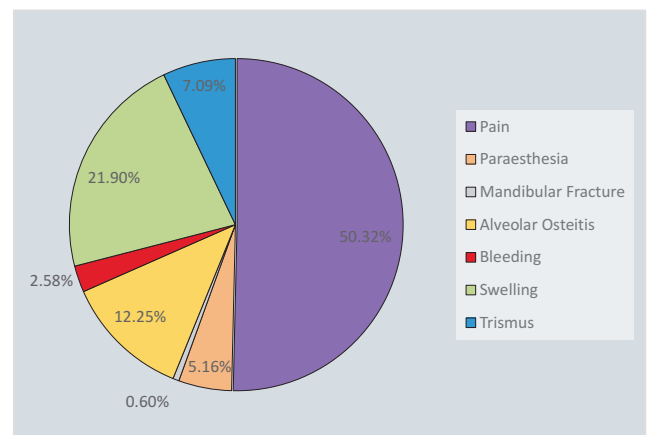


Fig. 1: Incidence of complications after third molar surgery.

In our study there was a significant difference in pain levels amongst the three age groups in which pain was most frequently seen in age group less than 20 years (21.6%), followed by age group more than 40 years (20.6%) and least frequently seen amongst 20-40 years of age(15.2%). There was a single case of mandibular fracture, seen in a patient more than age group of 40 years. Swelling was seen in 18.7% of subjects who were less than 20 years of age, 10.6% subjects between the age of 20-40years and 12.9% in subjects who

were more than 40 years of age. There was no significant difference in the Trismus index and swelling as seen in Table 2 and Fig. 2.

	Complication	Less than 20 years	20-40 years	Greater than 40 years	P value
1	Pain	32	15	31	<0.05
2	Parasthesia	3	1	4	>0.05
3	Mandibular Fracture	0	0	1	>0.05
4	Alveolar Osteitis	2	6	11	>0.05
5	Bleeding	1	1	2	>0.05
6	Swelling	16	7	11	>0.05
7	Trismus	7	1	3	>0.05

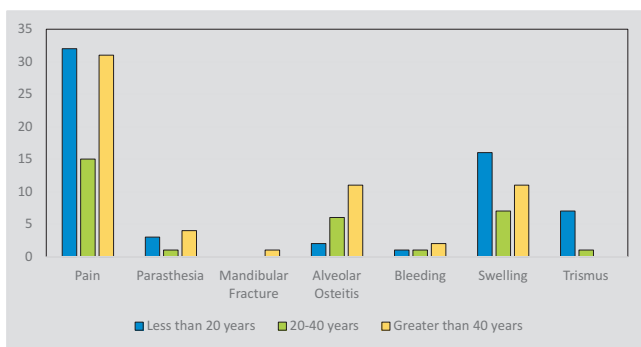


Fig. 2: Incidence of complications in different age groups.

Table 3 and Fig. 3 shows the percentage of most common type of impactions among the study group that is Mesioangular impaction 59.03% (183 impactions) followed by Horizontal 19.67% (61 impactions), Vertical impaction 11.61% (36 impactions), and Distoangular 9.67% (30 impactions).

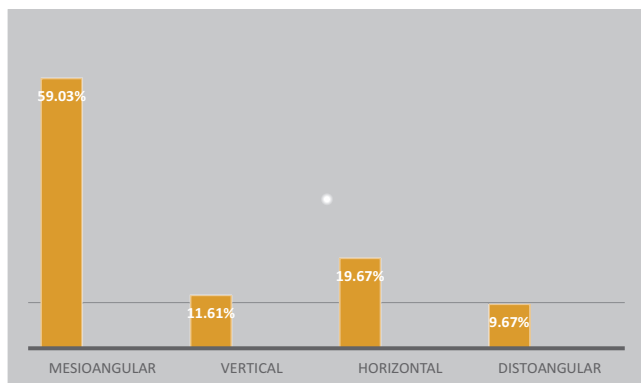


Fig. 3: Type of Impaction among the study group.

Type of impaction	N	%
Mesioangular	92	59.03%
Vertical	17	11.61%
Horizontal	32	19.67%
Distoangular	14	9.67%
Total	155	

### Discussion:

Third molar also mentioned as wisdom teeth are the last teeth to develop within the human jaw. These teeth are most often impacted due to lack of space. A practitioner should have the entire understanding and knowledge about the complication in order that they're ready to identify and isolate the high-risk group and manage. Bleeding and time period which can reduce the associated post-operative bleeding and healing complications. It's been seen that molar complications generally occur between the ages of 18 to 25 years.[8] Incidence of complication following the removal of third molar has been reported between 2.6% to 30.9%. Pain and swelling are one among the frequent and unsightly complications. Trismus is seen as a result of trauma and inflammation of the muscles of mastication and was difficult to manage without mouth opening exercises. Swelling is maximum during 2-3 days and subsides after 7 days.[12] Alveolar osteitis is another major complication during which the patient complains of severe throbbing pain 3-5 days after extraction.[9] The incidence of Alveolar osteitis varies between 1%-30%.[12] during a study by Valmaseda et al[10] the overall incidence of complication after third molar removal was 10%. It is found that overall complication rate was 15.62% and thus the foremost frequent complication was pain and its overall incidence was 57.3%, which is concurrent with present study with the incidence of 57.4%.[7] Also it is found that the incidence of pain was 28% after third molar surgery. In several studies it's found that foremost frequent complication after molar removal was pain, inflammation and Trismus which is analogous to our study. In our study there was 1(0.3%) patient with mandibular fracture which is analogous to review by Krimmel M et al[12] where mandibular fracture was one among the reported complications but the incidence was low. During this study the most typical sort of impaction, was Mesioangular impaction followed by Horizontal, Vertical and Distoangular impactions.

### Conclusion:

In conclusion a number of the complications are sure to occur after removal of wisdom teeth. An in-depth dental and medical history with advanced imaging modalities, gentle surgical techniques with minimal to no damage to adjacent normal structures and strict sterilisation methods are key factors involved in minimising the complications arising during and after surgical removal of impacted teeth. Pain was the foremost common complication followed by swelling and Trismus.

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