



Analysis for assessing the complications associated with impacted third molar removal: An observational study

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Abstract

Background: The surgical extraction of impacted third molars is a common oral surgical procedure. Hence; the present study was undertaken for assessing the complications associated with impacted third molar removal.

Materials & methods: A total of 100 patients were analyzed that underwent extraction of impacted third molar. Pre-operative hemodynamic parameters of all the patients were obtained. All the patients underwent surgical extraction for removal of impacted third molar under the hands of skilled and experienced oral surgeons. All the patients were kept on one month regular follow-up for assessing the presence of any postoperative complication. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results: Postoperative complications were found to be present in 10 percent of the patients. Common complications associated with removal of impacted third molar were dry socket, postoperative wound infection and damage to nearby nerve.

Complications: Impacted third molar removal should be carried out with greater care and precision as significantly proportion of postoperative complications are associated with it.

Keywords: Complications, Impacted, Third molar

Introduction

The surgical extraction of impacted third molars is a common oral surgical procedure. Common complications following third molar surgery include sensory nerve damage, dry socket, pain, swelling, trismus, infection and hemorrhage. Other complications include oro-antral fistula, buccal fat herniations, and iatrogenic damage to the adjacent second molar and iatrogenic mandibular fracture. Pain, trismus and swelling are almost universal after this procedure, and the incidence of both inferior alveolar and lingual nerve damage is high and may be permanent [1-3]. It is believed that with increasing age, bone become harder and brittle; ostectomy is more difficult and prolonged resulting in more pain, trismus and swelling [4-6]. Hence; the present study was undertaken for assessing the complications associated with impacted third molar removal.

Materials & methods

The present study was conducted with the aim of analyzing the complications associated with impacted third molar removal. A total of 100 patients were analyzed that underwent extraction of impacted third molar. Written consent was obtained from all the patients before the starting of the study. Complete demographic details of all the patients were obtained. Exclusion criteria for the present

study included:

- Patients with history of any systemic illness,
- Diabetic and hypertensive patients,
- Patients with any known drug allergy

Pre-operative hemodynamic parameters of all the patients were obtained. All the patients underwent surgical extraction for removal of impacted third molar under the hands of skilled and experienced oral surgeons. All the patients were kept on one month regular follow-up for assessing the presence of any postoperative complication. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results

In the present study, a total of 100 patients were analyzed. Mean age of the patients of the present study was 25.4 years. 60 percent of the patients in the present study were males while the remaining 40 percent were females. Majority of the patients were less than 30 years of age. In the present study, postoperative complications were found to be present in 10 percent of the patients. Common complications associated with removal of impacted third molar were dry socket, postoperative wound infection and damage to nearby nerve.

Table 1: Demographic data

Parameter		Number of patients
Age group (years)	Less than 30	65
	More than 30	35
Gender	Males	60
	Females	40

Table 2: Complications associated with impacted third molar removal

Complications	Number of patients
Dry socket	5
Postoperative wound infection	3
Damage of nearby nerve	2
Total	10

Discussion

One of the most common procedures carried out in dental clinics and the most frequent task done at oral and maxillofacial surgery clinics is the extraction of wisdom teeth. This procedure is frequently followed by complications in the mandible, including both iatrogenic (e.g., nerve injury, bone fractures, etc.) and inflammatory ones, such as dry socket, postoperative pain, delayed healing, postoperative infection, hematoma, swelling, trismus, etc. Although the overall complication rate might be generally low, and most complications are minor, this surgery is so frequent that the population's morbidity of complications may be noticeable; thus, identifying methods to control or reduce them is a major concern. Besides, not all complications are rare. There are frequent and debilitating complications as well, including postoperative pain [6-8]. Hence; the present study was undertaken for assessing the complications associated with impacted third molar removal.

In the present study, a total of 100 patients were analyzed. Mean age of the patients of the present study was 25.4 years. 60 percent of the patients in the present study were males while the remaining 40 percent were females. Majority of the patients were less than 30 years of age. Sigron GR et al analyzed the influence of different parameters, such as the patient's age and gender, retention type, and radiological projection (using orthopantomography) of wisdom teeth on the mandibular canal on postoperative complications after the removal of 1,199 wisdom teeth. Overall, 101 (8.4%) complications occurred: 50 cases of alveolar osteitis (4.2%), 12 temporary (1%) and 6 persistent (0.5%) sensation disorders, 15 abscesses (1.25%), 7 dehiscence's (0.6%), 5 cases of post-operative bleeding (0.4%), 4 sequestra (0.32%), 1 fistula (0.08%) and 1 hematoma (0.08%). The risk for developing alveolar osteitis was 6% for patients who suffered from a previous per coronal infection and was higher for female than male patients. Smoking showed no influence on alveolar osteitis. A significant correlation ($p < 0.0001$) could be shown between the radiological projection of wisdom teeth on the mandibular canal and post-operative sensation disorders. The experience of the surgeon and pre-operative 3-dimensional imaging (cone- beam computed tomography, computed tomography) did not reduce this risk. No correlation was found for patient's age and gender. In conclusion, the surgical decision to remove wisdom teeth must be made with caution in cases of complete radiological projection of the wisdom tooth on the mandibular canal [9]. In the present study, postoperative complications were

found to be present in 10 percent of the patients. Common complications associated with removal of impacted third molar were dry socket, postoperative wound infection and damage to nearby nerve. Osunde OD et al determined the surgical indications and risk factors for complications of third molar surgery at a Nigerian teaching hospital. A total of 330 impacted teeth were extracted from 250 patients. Male comprises (104/250 [41.6%]) and female (146/250 [58.4%]). The mesioangular (176/330 [53.4%]) and distoangular (73/330 [22.1%]) impactions were the commonest types. Recurrent pericoronitis (154/330 [46.7%]) was the most common indication for extraction. The complications were delayed healing (19/330 [5.8%]), alveolar, osteitis (9/330 [2.7%]) and injury to alveolar nerve (2/330 [0.6%]). Cigarette smoking ($P < 0.001$), Oral contraceptives use ($P = 0.01$), age of the patient ($P = 0.03$) and the surgeon's experience ($P = 0.04$) were found to be significantly associated with the development of alveolar osteitis; nerves injuries were significantly associated with the raising of a lingual flap ($P < 0.001$) and the technique of surgery ($P \leq 0.001$). The age of the patient, cigarette smoking and oral contraceptive use at the time of surgery are some of the factors affecting outcome in third molar surgery [10].

Conclusion

Under the light of above obtained data, the authors conclude that impacted third molar removal should be carried out with greater care and precision as significantly proportion of postoperative complications are associated with it. However; further studies are recommended.

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