International Journal of Dentistry and Oral Science (IJDOS)
ISSN: 2377-8075

Prevalence Of Dry Socket In Surgically Removed Impacted Teeth

Research Article

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Abstract

To assess the prevalence of dry socket in surgically removed impacted teeth. A retrospective study was done in an institutional setting. The data for the study was retrieved from the college patient records. All the patients who underwent surgical removal of impacted teeth where given a time frame of june 2019 - march 2020, were taken into consideration. The patient details included name, age, gender, tooth number and patient intra oral state and complaint on recall visits were retrieved from the software. The data was then analysed using SPSS software. Total of 362 patients were involved in this study, 218 being male patients and 144 being female patients. A total of 17 cases (4.7%) reported back with dry socket out of the 362 cases included in the study. More cases of dry socket was seen in the mandibular third molars. The age group in which dry socket was more prevalent was between 21-30 years age group. Dry socket was most commonly seen in mandibular third molars, a total of 17 cases reported back with dry socket out of the 362 cases included.

Keywords: Alveolar Osteitis; Third Molar Surgery; Wisdom Teeth; Post Operative Complication; Impacted Teeth.

Introduction

Third molars are the last to erupt and have high chances of becoming impacted, teeth may become impacted when they fail to erupt or develop into proper functional functional location. Impacted teeth are considered non functional and abnormal. One of the main reason for the teeth to get impacted is space deficiency. One of the most important and common complications following surgical removal of impacted teeth is dry socket. This phenomenon is due to resolution of blood clot and exposure of alveolar bone. Pain, halitosis, activity reduction, and additional returns to visit surgeon are of costs patient will pay. [16, 15]. Many factors lead to development of dry sockets, some of them are general health of patients, professional factors and local factors. Elder patients are at a higher risk of developing dry socket. One of the most important factors to be considered that plays a major role in development of dry socket is surgeons lack of experience and patience and poor oral hygiene maintenance. The aim of this study is to evaluate the prevalence of dry socket in surgically removed impacted teeth. This study will give us an idea on how often dry sockets occur and the points to keep in mind while doing impaction to avoid the occurrence of dry socket.

Materials and Methods

A retrospective study was conducted in an institutional setting. The ethical clearance was obtained from the institutes ethical committee. The study involved all the patients who had undergone surgical removal of impacted teeth in a given time frame.

Selection Of Subjects

All patients who had undergone surgical removal of impacted teeth were considered in this study. The time period of choice was from june 2019 to march 2020. A total of 86000 patients were reviewed and analysed. There were three people involved in this study - the guide, reviewer and researcher. All available data was

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Received: January 12, 2021
Accepted: January 22, 2021
Published: January 29, 2021

Citation: Muthusekhar, Vivek. D. Menon, Dinesh Prabu. Prevalence Of Dry Socket In Surgically Removed Impacted Teeth. *Int J Dentistry Oral Sci.* 2021;08(01):1547-1550. **doi:** http://dx.doi.org/10.19070/2377-8075-21000307

collected and sorted.

Data Collection

The patient details were retrieved from the institution's patient records. Data regarding the patient's age, gender, tooth number and intra oral state and complaint of patient were considered for this study. Cross verification of the data was done by the second reviewer, to avoid any missing or repetitive data. The data was manually retrieved and tabulated in excel and sorted.

Inclusion Criteria

All patients who underwent surgical removal of impacted teeth were included in this study. All age groups were considered.

Exclusion Criteria

Patients with incomplete case records were not included in the study. Repetitive entries were also excluded.

Statistical Analysis

The tabulated data was analysed using SPSS software (IBM SPSS statistics 260). The method of analysis that was used was "chi square test". The analysis was done between age and occurrence of dry socket and also between tooth and occurrence of dry socket.

Results and Discussion

The above study was to determine the prevalence of dry socket in surgically removed impacted teeth.

Data Analysis: Out of the 362 patients who under went surgical removal of impacted teeth, 17 cases (4.7%) cases reported back with dry socket (figure 1). When age was compared with the diagnosis post impaction procedure it was found out that most number of dry sockets occurred in the age group ranging from 21-30 years and when tooth number was compared with diagnosis it was found that the most common teeth to be affected by dry socket was the mandibular molars(Fig 2). On comparison between gender and diagnosis it was found that out of 144 female patients 8 cases were diagnosed as dry socket. While on the other hand out of 218 male patients 9 patients were diagnosed with dry socket. The above mentioned data have been depicted as pie charts and

Figure 1. 17 cases of 362 cases reported back with dry socket.

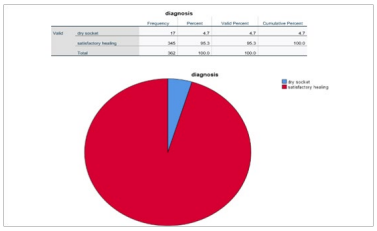


Figure 2. X axis - tooth number,Y axis - number of dry socket cases.
This study showed an increased number of cases of dry socket in the lower mandibular wisdom teeth. P value is 0.362, statistically insignificant.

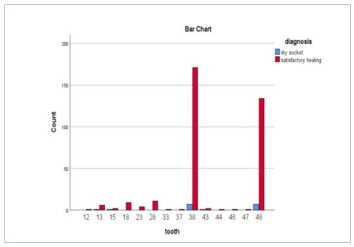
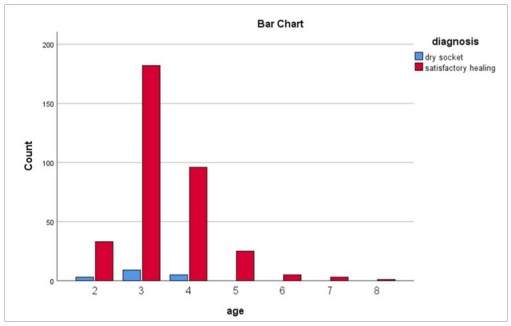
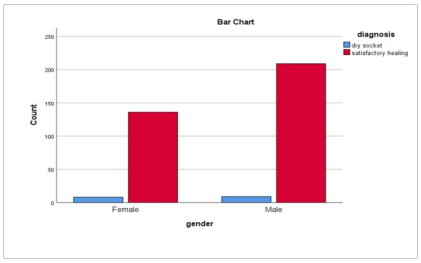


Figure 3. X axis - age group of patients (range denotes 0-10 as 1, 11-20 as 2 21-30 as 3 31-40 as 4 and so on...), Y axis - diagnosis.
The study showed an increased number of dry socket cases in the age group 21-30 years.



Group. P value is 0.83 , statistically insignificant

Figure 4. X axis- gender, Y axis- diagnosis
The study showed very less difference in occurrence of dry socket in both the genders (more in males than females). P value is 0.530, statistically insignificant.



graphs below.

Surgical removal of impacted 3rd molar is a common procedure which is routinely carried out in dental offices. The removed teeth showed all kinds of impaction, so the procedures varied from simple impactions to difficult cases. Complication can arise following third molar surgery that could range from infection, ulcer, swelling, paraesthesia and trismus. These complications are well documented. Dry socket starts 1 to 3 days after extraction with severe pain, halitosis, foul taste, and regional lymphadenitis [20, 15] [8]. Clinical examination, there exists no blood clot in the socket and the bone is exposed [6, 12] [5].

The results of the current study revealed that prevalence of dry socket following surgical extraction of impacted mandibular third molar were 4.75%. This finding is not in accordance with the incidence rate between 5% and 30% reported in various previous studies [2, 3, 17]. This could possibly be attributed to the different assessment methods and the variations in diagnostic criteria.

Infection increases the release of tissue activators from the alveolar bone which leads to enhanced fibrinolytic activity and loss of blood clot [7, 9, 19]. In addition, trauma could also increase the release of tissue activators and the incidence of dry socket [7, 18, 22] The surgeon experience effect on the amount of trauma in an extraction. Observed higher incidence of postoperative complication (including DS) in surgeries by residents when compared with oral and maxillofacial surgeons [11, 1, 15].

Regarding anatomical site, mandibular teeth, were more affected than maxillary teeth, consistent with a study conducted in Sri Lanka. More commonly cases were noted in the mandibular 3rd molars. The specificity of these sites may be related to the decreased vascularity, greater bone density and a diminished capacity in forming granulation tissue. It has also been suggested that difficulty of traumatic extractions may be a cause. It is thought that trauma results in compression of the alveolar bone, reduction in blood [13, 1] perfusion and thrombosis of underlying blood vessels leading to increased fibrinolytic activity.

Dry socket incidence is age dependent. Although, the peak age varies among different reports, most of the research works reveal 20 to 40 years of age as the peak period of dry socket incidence [10, 14, 21] In the above mentioned study the age group in which dry socket was most prevalent was between 21-30 years.

Conflicting results exist according to the role of gender. Sweet and Butler found incidence of DS in women eight times more than men [25][26, 27] However, Catellani, Al-khateeb et al and Nusair and Younes concluded that gender has no effect on Dry socket which is in accordance with the result of the above done study [4] [23]. It should be mentioned that in western countries a higher number of women smoke. But in eastern countries including our current study, the number of smoker women is scare [24].

Conclusion

The occurrence of dry socket in an everyday oral surgery or dental practice is unavoidable. Dry socket occurrence is a painful but infrequent complication of tooth extraction and most commonly affects the mandibular teeth. Oral contraception and smoking independently or in combination with a traumatic extraction were the most prevalent predisposing factors for dry socket. Surgeons must recognize additional risk factors in patients with particular medical conditions and include this information as a part of the informed consent. Treatment options for this condition are generally limited and directed toward palliative care. The surgical site should be irrigated, avoiding curetting the extraction socket. Packing with a zinc oxide-eugenol paste on iodoform gauze can be considered to relieve acute pain episodes. Ultimately it is the host's healing potential which determines the severity and duration of the condition.

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