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ORIGINAL RESEARCH

Assessment of risk factors of dry socket

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ABSTRACT

Background: This study was conducted to assess the risk factors associated with dry socket.**Materials & methods:**The study comprised a total of 100 patients who had their teeth extracted. Local anesthetic was used for all surgeries. Every patient provided a detailed medical history prior to the surgical treatment. The evaluation of dry socket occurrence followed the approved approach. The medical records of these individuals were thoroughly collected, and the risk factors related with dry socket were evaluated.**Results:**A comprehensive analysis was conducted on a sample size of 100 patients. Dry socket was observed in 49% of the 100 cases under consideration. A prevalence rate of 40.8 percent was observed among the patients in terms of having a positive history of tobacco smoking. A correlation was observed between those who identified as female and had a documented history of oral contraceptive use, which was identified as a risk factor in 30.6% of the patient population. Traumatic tooth extraction and gingival infection in the adjacent region were identified as risk factors in 16.3% and 12.2% of the patients, respectively. **Conclusion:**Oral contraceptives, cigarette use history, gingival infection, as we;; as traumatic extraction had been the reasons for dry socket.

Key words: Dry Socket, risk factors

INTRODUCTION

The provision of exodontia, performed with meticulous care and expertise by general dentists, constitutes a highly beneficial service for patients. A significant proportion of patients exhibit a preference for receiving essential extraction or minor surgical operations from their family dentist, as opposed to being referred to an external healthcare facility. The majority of teeth requiring extraction can be successfully removed by a generalist dentist who has acquired the necessary skills to perform not just routine extractions but also those that are more complex and require surgical intervention. In order to achieve proficiency in exodontia, the dentist must possess the capacity to discern cases that align with their level of competence and confidence. Additionally, they should possess a comprehensive understanding of sound surgical principles and be adept at employing a range of patient management strategies. Furthermore, the dentist must be adequately equipped to address any potential complications that may arise during the procedure.[1]

The colloquial term "dry socket" is used to describe a condition that occurs after a tooth extraction, wherein the bone within the socket or around its occlusal perimeter becomes exposed in the days following the procedure. This exposure is a result of the bone not being adequately covered by an initial and continuous blood clot or a layer of vital, persistent, healing epithelium.[2,3]The individual may encounter challenges in avoiding the contact of food particles or the tongue with the exposed bone, leading to a heightened sensation of acute pain upon touch and thereafter experiencing numerous episodes of acute pain. With the exception of the exposed bone, all components of a dry socket lesion can be delicately palpated with a periodontal probe or an irrigation needle tip without eliciting acute pain. Dry socket lesions are observed in an estimated range of 1% to 5% of all tooth extractions, with a higher incidence of up to 38% specifically in the extraction of mandibular third molars.

Hence, the present study was conducted to assess the risk factors of dry socket.

MATERIALS & METHODS

The study comprised a total of 100 patients who had their teeth extracted. Local anesthetic was used for all surgeries. Every patient provided a detailed medical history prior to the surgical treatment. The evaluation of dry socket occurrence followed the approved approach. The medical records of these individuals were thoroughly collected, and the risk factors related with dry socket were evaluated.

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RESULTS

A comprehensive analysis was conducted on a sample size of 100 patients. Dry socket was observed in 49% of the 100 cases under consideration. A prevalence rate of 40.8 percent was observed among the patients in terms of having a positive history of tobacco smoking. A correlation was observed between those who identified as female and had a documented history of oral contraceptive use, which was identified as a risk factor in 30.6% of the patient population. Traumatic tooth extraction and gingival infection in the adjacent region were identified as risk factors in 16.3% and 12.2% of the patients, respectively.

Table 1:Incidence of dry socket

Variable	Number	Percentage
Dry socket	49	49%
Total extractions	100	100%

Table 2:Risk factors of dry socket

Risk factors	Number	Percentage
Tobacco smoking history	20	40.8%
Females with history of use of oral contraceptives	15	30.6%
Traumatic extraction	08	16.3%
Gingival infection of associated region	06	12.2%

DISCUSSION

Dry socket is a significant clinical issue. The condition is distinguished by intense pain that manifests during a period of two to three days following the extraction procedure. The underlying cause of this consequence is an elevated level of local fibrinolysis, resulting in the degradation of the clot. Several antifibrinolytic medications have demonstrated the ability to decrease the incidence of dry socket when used topically at the extraction site. The fibrinolytic activity observed can be attributed to surgical trauma and bacterial infections, which are well recognized as the primary causative factors.[4]Hence; the present study was conducted for assessing the risk factors of dry socket.

In this study, a comprehensive analysis was conducted on a sample size of 100 patients. Dry socket was observed in 49% of the 100 cases under consideration. A prevalence rate of 40.8 percent was observed among the patients in terms of having a positive history of tobacco smoking. A correlation was observed between those who identified as female and had a documented history of oral contraceptive use, which was identified as a risk factor in 30.6% of the patient population. Traumatic tooth extraction and gingival infection in the adjacent region were identified as risk factors in 16.3% and 12.2% of the patients, respectively.

Taberner-Vallverdú et al.[5] conducted a study with the aim of analyzing the impact of various factors on the occurrence of dry socket in patients receiving primary care, as well as identifying potential risk factors in patients who had previously experienced a dry socket episode. Over a period of 24 months, questionnaires were administered to collect data on patients who sought medical care at various public primary healthcare facilities in the Barcelona region of Spain. A case-control study was undertaken with the aim of identifying the primary risk variables associated with the development of complications in the form of dry socket. The likelihood of developing this problem is heightened by factors such as the mandibular placement of the extracted tooth, inadequate dental hygiene, a challenging extraction process, and a history of dry socket. The study observed a significant 11.45-fold increase in the likelihood of experiencing a recurrent dry socket among patients who had previously developed the same problem, after adjusting for the level of difficulty in the tooth extraction procedure (odds ratio [OR]: 11.45; 95% confidence interval [CI]: 1.06 to 123.74; $p = 0.045$). The risk factors associated with the occurrence of dry socket include the extraction of a tooth located in the mandible, inadequate dental hygiene practices, a challenging extraction procedure, and notably, a previous history of dry socket. There is room for improvement in the identification of these criteria for the prevention of dry socket in each patient.

MacGreoger[6] observed a greater prevalence of dry socket in females, with a male-to-female ratio of 2:3. The potential rationale for this disparity may be attributed to the divergence in smoking patterns between genders in Eastern and Western countries. In Western countries, the prevalence of smoking among females is higher compared to that in Eastern societies.

CONCLUSION

Dry socket can be attributed to various factors, including the use of oral contraceptives, a history of cigarette use, the presence of gingival infection, and the occurrence of traumatic extraction.

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