



Assessment of risk factors of dry socket

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Abstract

Background:The most frequent dental as well as oral surgery operation is exodontia. Dry socket, also known as alveolar or fibrinolytic osteitis, is a serious issue that can arise after tooth or teeth extraction in oral surgery. Therefore, the current investigation was carried out to evaluate the dry socket risk factors.

Materials & methods:overall one hundred subjects who had tooth extractions performed were examined. Every procedure was completed while receiving local anaesthetic. Prior to surgery, adequate medical histories were gathered from each patient. Following the procedure, the incidence of dry socket was assessed. These patients' histories were well gathered, and risk factors for dry socket were evaluated.

Results:A total of 100 patients were analyzed. Out of these 100 patients, dry socket was seen in 25 percent of the patients. Positive tobacco smoking history was seen in 55 percent of the patients. Females with history of use of oral contraceptives were seen as risk factor in 26 percent of the patients. Traumatic extraction and gingival infection of associated region were seen as risk factors in 10 percent and 09 percent of the patients respectively.

Conclusion:Oral contraceptives, cigarette use history, gingival infection, and traumatic extraction were the causes of dry socket.

Key words: Dry Socket, risk factors

Introduction

Exodontia that is carefully and skillfully done by general dentists is a valuable service to patients. The majority of patients would rather have their family dentist perform necessary extractions or other minor surgery procedures than be referred outside the office. Most teeth that need to be extracted could be removed by a generalist if that person has developed the expertise to do not only relatively easy extractions, but also that percentage that is inevitably more difficult--requiring "surgical" removal. To be successful with exodontia, the dentist must have the ability to select cases within his or her level of comfort and ability, have a working knowledge of sound surgical principles, be able to apply a variety of patient management techniques, and then be prepared to handle whatever complications may arise.¹

The unscientific term "dry socket" refers to a post-extraction socket where some or all of the bone within the socket, or around the occlusal perimeter of the socket, is exposed in the days following the extraction, due to the bone not having been covered by an initial and persistent blood clot or not having been covered by a layer of vital, persistent, healing epithelium.^{3,4}

The patient may not be able to prevent food particles or the tongue from mechanically stimulating the exposed bone, which is acutely painful to touch, resulting in frequent acute pain. All parts of a dry socket lesion, except the exposed bone, can be gently touched with a periodontal probe or an irrigation needle tip without causing acute pain. Dry socket lesions occur in approximately 1% to 5% of all extractions and in up to 38% of mandibular third molar extractions.

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

Materials & methods

The purpose of the current study was to evaluate the dry socket risk variables. A total of 100 patients who had dental extraction procedures performed were examined. Every procedure was completed while receiving local anaesthetic. Prior to surgery, adequate medical histories were gathered from each patient. Following the procedure, the incidence of dry socket was assessed. These patients' histories were well gathered, and risk factors for dry socket were evaluated. SPSS software was used to analyse all of the results.

Results

A total of 100 patients were analyzed. Out of these 100 patients, dry socket was seen in 25 percent of the patients. Positive tobacco smoking history was seen in 55 percent of the patients. Females with history of use of oral contraceptives were seen as risk factor in 26 percent of the patients. Traumatic extraction and gingival infection of associated region were seen as risk factors in 10 percent and 09 percent of the patients respectively.

Table 1: Incidence of dry socket

Variable	Number	Percentage
Dry socket	25	25%
Total extractions	100	100%

Table 2: Risk factors of dry socket (n=24)

Risk factors	Number	Percentage
Tobacco smoking history	55	55%
Females with history of use of oral contraceptives	26	26%
Traumatic extraction	10	10%
Gingival infection of associated region	09	09%

Discussion

Dry socket is an important clinical complication. It is characterized by severe pain starting after two or three days of extraction. The etiology of this complication is an increased local fibrinolysis leading to breakdown of the clot.⁵ Some antifibrinolytic agents, when placed topically in the extraction site, have been shown to reduce the occurrence of dry socket.⁶ Surgical trauma and bacterial infections remain the acceptable initiating factors of this fibrinolytic activity.

Hence; the present study was conducted for assessing the risk factors of dry socket.

A total of 100 patients were analyzed in this study. Out of these 100 patients, dry socket was seen in 25 percent of the patients. Positive tobacco smoking history was seen in 55 percent of the patients. Females with history of use of oral contraceptives were seen as risk factor in 26 percent of the patients. Traumatic extraction and gingival infection of associated region were seen as risk factors in 10 percent and 09 percent of the patients respectively.

MacGreoger⁷ reported a higher incidence of dry socket in females with a male: female ratio of 2:3. The possible explanation of this difference can hide behind the fact that eastern societies differ from western ones in smoking habit between females and males. In western societies females smoke in a higher percentage than in eastern societies.

Abu Younis et al⁸ assessed the frequency, clinical picture, and risk factors of dry socket at the Dental Teaching Center of Al-Quds University in Palestine. Two previously used questionnaires were accomplished in this study over a one year period. The first questionnaire

was completed for every patient who had one or more permanent teeth extracted in the Dental Surgery Clinic. The other one was completed for every patient suffered a postoperative pain and was diagnosed with dry socket. There were 1305 dental extractions performed in 805 patients. The overall frequency of dry socket was 3.2%. The incidence of dry socket following non-surgical extractions was 1.7% while it was 15% following surgical extractions ($P < 0.005$). The incidence of dry socket was significantly higher in smokers (12%) than in non-smokers (4%) ($P < 0.005$), however, there is a strong association between the amount of smoking and the incidence of dry socket ($P < 0.002$). The incidence of dry socket was significantly higher in the single extraction cases (13%) than in the multiple extraction cases (5%) ($P = 0.005$). Age, sex, medical history, extraction site, amount of local anesthesia and experience of operator played no role in the occurrence of dry socket. Smoking, surgical trauma and single extractions were considered predisposing factors in the occurrence of dry socket. On the other hand, factors like: age, sex, medical history, extraction site, amount of anesthesia, and operator experience had no effect on the observation of dry socket.

Conclusion

Oral contraceptives, cigarette use history, gingival infection, and traumatic extraction were the causes of dry socket.

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