

Original Research

Assessment of incidence and risk factors of dry socket: An observational analysis

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ABSTRACT:

Background: Dry socket, also termed fibrinolytic osteitis or alveolar osteitis, is a complication of tooth exodontia. The present study was undertaken for assessing the incidence and risk factors of dry socket. **Materials & methods:** A total of 500 patients were analysed. Only those patients were included in the analysis which underwent dental extraction during the study period under local anaesthesia. Complete hemodynamic and glycaemic profile of all the patients was recorded. Local anaesthesia was given and dental extraction was procedure was carried out. Follow-up instructions were given to all the patients and all of them were recalled after 48-72 hours for check-up. Incidence and risk factors for dry socket was recorded. **Results:** A total of 500 patients were analysed. Overall, incidence of dry socket was 5.6 percent (28 patients). Mean age of the patients with dry socket was 55.8 years. Among these 28 patients, 15 were males while the remaining 13 were females. Mandibular third molar was involved in 11 cases. Positive smoking habit was present in 13 patients. **Conclusion:** Smoking; traumatic extractions and use of oral contraceptives are significant risk factors for occurrence of dry socket.

Key words: Dry socket, Extraction

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INTRODUCTION

Dry socket, also termed fibrinolytic osteitis or alveolar osteitis, is a complication of tooth exodontia. A dry socket lesion is a post-extraction socket that exhibits exposed bone that is not covered by a blood clot or healing epithelium and exists inside or around the perimeter of the socket or alveolus for days after the extraction procedure.¹⁻³ A dry socket lesion may show exposed bone located superior to the projected location of the occlusal surface of the socket after the socket heals. This bone may be a protruding septum of bone or may be located on the socket occlusal perimeter. The occurrence of dry socket in an everyday oral surgery or dental practice is unavoidable. The risk factors for this temporary and debilitating condition are clearly identified. Surgeons must recognize these risk factors in patients with particular medical conditions and include this information as a part of the informed

consent.⁵⁻⁷ Hence; the present study was undertaken for assessing the incidence and risk factors of dry socket.

MATERIALS & METHODS

The present study was conducted in the year 2012-2013 with the aim of analysing incidence and various risk factors of dry socket. A total of 500 patients were analysed. Only those patients were included in the analysis which underwent dental extraction during the study period under local anaesthesia. Complete hemodynamic and glycaemic profile of all the patients was recorded. All the patients were recalled in the morning and blood pressure was checked. After getting cleared medically, local anaesthesia was given and dental extraction was procedure was carried out. Follow-up instructions were given to all the patients and all of them were recalled after 48-72 hours for

check-up. Incidence and risk factors for dry socket was recorded. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. Univariate analysis was used for evaluation of level of significance.

RESULTS

A total of 500 patients were analysed. Overall, incidence of dry socket was 5.6 percent (28 patients). Mean age of the patients with dry socket was 55.8 years. Among these 28 patients, 15 were males while the remaining 13 were females. Mandibular third molar was involved in 11 cases. Positive smoking habit was present in 13 patients. Past history of dry socket was present in 4 patients. Traumatic dental extraction was present in 7 patients. History of use of oral contraceptives was present in 3 females.

Graph 1: Incidence of dry socket

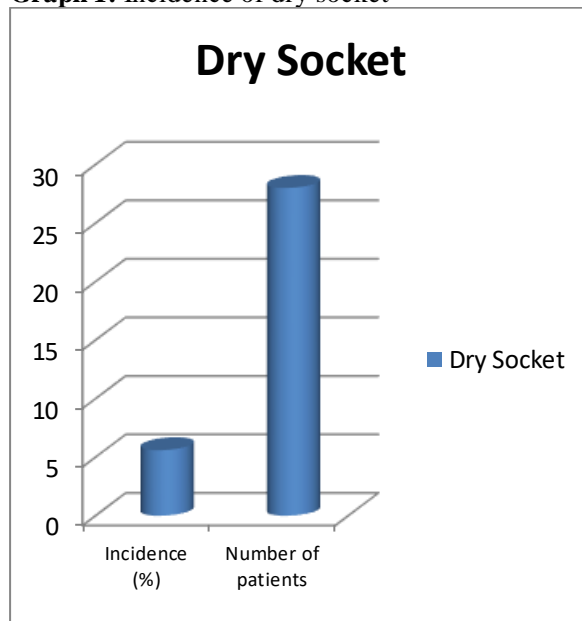


Table 1: Risk factors of dry socket

Risk factors		Number
Gender	Males	15
	Females	13
Mean age (years)		55.8
Positive smoking history		13
Tooth type	Incisors and canines	3
	Premolars	5
	Maxillary molars	9
	Mandibular molars	11
Positive past history of dry socket		4
Traumatic dental extraction		7
History of use of oral contraceptives		3

DISCUSSION

Alveolar osteitis (AO) is one of the extraction wound healing disorder, Commonly known as “dry socket” which is one of the common postoperative problem that results in severe pain “postoperative pain” inside and

around the extraction site, which increases in severity between the first and third day after the extraction, usually caused by a partial or total disintegrated blood clot within the socket, this type of extraction complications usually associated with the extraction of impacted 3rd molar teeth and mandibular molar teeth.⁶⁻⁹ Hence; the present study was undertaken for assessing the incidence and risk factors of dry socket.

In the present study, 500 patients were analysed. Overall, incidence of dry socket was 5.6 percent (28 patients). Mean age of the patients with dry socket was 55.8 years. Among these 28 patients, 15 were males while the remaining 13 were females. Birn H in early 1970s provided with the evidence that reduced post-extraction socket blood flow facilitates dry socket lesion formation. Smoking and use of oral contraceptives¹⁸ both facilitate blood clotting throughout the body and may reduce blood circulation into the extraction socket. Both smoking and use of oral contraceptives correlate with an increased incidence of dry socket lesions.^{10, 11}

In the present study, mandibular third molar was involved in 11 cases. Positive smoking habit was present in 13 patients. Past history of dry socket was present in 4 patients. Traumatic dental extraction was present in 7 patients. History of use of oral contraceptives was present in 3 females. Abu Younis et al also concluded that traumatic extractions correlate with dry socket lesion incidence. The incidence of dry socket lesions is lower for non-surgical extractions (that do not require tooth sectioning) compared to surgical extractions. This may be due to a correlation between the need to section a tooth and the need for heavy luxation forces to remove a tooth or individual roots.¹² The highest rate of dry socket incidence among all teeth types occurs with the extraction of mandibular third molars. Mandibular third molars are often deeply embedded in dense bone and have the highest incidence of root dilacerations among teeth (Mamoun J, 2018).¹³

Abu Younis MH et al assessed the frequency, clinical picture, and risk factors of dry socket. 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. Age, sex, medical history, extraction site, amount of local anesthesia and experience of operator play no role in the occurrence of dry socket. Smoking, surgical trauma and single extractions are considered predisposing factors in the occurrence of dry socket.¹²

In another study conducted by Upadhyaya C et al, authors evaluated incidence of dry socket following extraction of permanent teeth at dental out-patient department (OPD). A total 1860 no of patients were studied who underwent extraction of total 2640 number of permanent teeth for various reasons. A total of 103 (3.9%) extractions were complicated by dry socket in patients aged 11 to 80 years with female predominance (54.4%). The etiology of dry socket is multifactorial

and ultimately it is the host's healing potential which determines the severity and duration of the condition.¹⁴

CONCLUSION

From the above results, the authors conclude that smoking; traumatic extractions and use of oral contraceptives are significant risk factors for occurrence of dry socket.

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