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# **Original Research**

# Evaluation of risk factors of dry socket: An observational study

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#### ABSTRACT:

**Background:** Dry socket is the most common complication due to surgical or traumatic removal of the tooth from the oral cavity. Hence; the present study was conducted for evaluating the risk factors associated with dry socket. **Materials & methods:** A total of 100 patients were analyzed who underwent dental extraction procedures. Preoperatively, all the biochemical and hemodynamic variables were assessed. All the procedures were carried out under local anaesthesia. Adequate medical history was obtained of all the patients prior to the surgery. Postoperative follow-up was done and incidence of dry socket was evaluated. Proper history was obtained among these patients and risk factors of dry socket were assessed. All the results were analyzed by SPSS software. **Results:** Analysis of a total of 100 subjects was done. Out of these 100 patients, dry socket was present in 8 percent of the study population. Out of 8 patients with presence of dry socket, tobacco smoking habit was seen in 50 percent of the patients while 2 females had history of use of oral contraceptives. **Conclusion:** Dry socket is one of the most common complications in day to day dental practice and is one of the unavoidable thing. One should know the risk factors for the same and try to avoid them in clinical practice. **Key words:** Dry Socket, risk factors

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### **INTRODUCTION**

Dry socket is the most common complication due to surgical or traumatic removal of the tooth from the oral cavity. Dry socket is otherwise known as " Alveolar Osteitis". This is one of the most common problem that is associated post operatively, which leads to the patient discomfort along with pain and this condition results in multiple post operative visits to the dental operatory. The pain that occurs due to the dry socket usually occurs after one day to third day of the extraction, which may be due to disintegration of the blood clot. This type of complication usually occurs during the traumatic extraction of maxillary or mandibular third molar.<sup>1-3</sup> Food particles that collect inside the socket may dislodge a blood clot. Bacterial biofilm and food particles inside a socket may also hinder the reformation of a dislodged blood clot by obstructing contact of a reforming blood clot with the exposed bone. Food particles and bacterial biofilm may hinder contact of the healing epithelium with the exposed bone, which may prolong the healing time of the dry socket lesion. Food particles that collect inside a dry socket can also ferment due to bacteria. This fermentation may result in the formation of toxins or antigens that may irritate the exposed bone, produce an unpleasant taste or halitosis, and cause pain throughout the jaw. However, evidence suggests that bacteria is not the main cause of dry socket lesions.<sup>4-6</sup> Hence; the present study was conducted for evaluating the risk factors associated with dry socket.

### **MATERIALS & METHODS**

The present study was conducted for analyzing incidence and risk factors associated with formation of dry socket. A total of 100 patients were analyzed who underwent dental extraction procedures. Preoperatively, all the biochemical and hemodynamic variables were assessed. All the procedures were carried out under local anaesthesia. Adequate medical history was obtained of all the patients prior to the surgery. Postoperative follow-up was done and incidence of dry socket was evaluated. Proper history was obtained among these patients and risk factors of dry socket were assessed. All the results were analyzed by SPSS software.

# RESULTS

Analysis of a total of 100 subjects was done. Out of these 100 patients, dry socket was present in 8 percent of the study population. Mean age of the subjects with dry socket was 52.1 years. Out of these

### Table 1: Incidence of dry socket

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Variable	Number	Percentage
Dry socket	8	8
Total extractions	100	100

## Table 2: Demographic data of patients with dry socket

Variable	Number	
Mean age	52.1 years	
Males (n)	5	
Female (n)	3	

Graph 1: Risk factors of dry socket



#### DISCUSSION

Dry socket can be defined as with the most recent definition as "post operative pain that is present inside and around the site of extraction, that invreases in term of severity at any possible time between the first day and third day after the extraction is been done, along with disintegration of the blood clot from the extraction socket that too along with or without halitosis.<sup>5-7</sup>

Analysis of a total of 100 subjects was done. Out of these 100 patients, dry socket was present in 8 percent of the study population. Mean age of the subjects with dry socket was 52.1 years. Out of these 8 subjects with dry socket, 5 were males while the remaining 3 were males. The chances of occurring of dry socket or alveolar osteitis in case of dental extractions that are occurring in routine is found to be 0.5% to 5%. The chances of occurrence of dry socket or alveolar osteitis after the extraction of mandibular third molar vary from 1% to 37.5%. Incidence of dry socket encountered ten percent higher when extraction was done surgically rather than normally. In most of the cases associated with alveolar osteitis or dry socket, pain start apperianing between first to third day after the tooth is being extracted surgically or traumatically. Other literature shows that most of

8 subjects with dry socket, 5 were males while the

remaining 3 were males.Out of 8 patients with presence of dry socket, tobacco smoking habit was

seen in 50 percent of the patients while 2 females had

history of use of oral contraceptives. Traumatic

extraction was done in 37.5 percent of the patients.

Gingival infection associated with extracted tooth

region was seen in 25 percent of the patients.

the cases of dry socket or alveolar osteitis reports with in a week, which include 95% to 100% of the cases.  $^{8\mbox{-}11}$ 

In the present study, out of 8 patients with presence of dry socket, tobacco smoking habit was seen in 50 percent of the patients while 2 females had history of use of oral contraceptives. Traumatic extraction was done in 37.5 percent of the patients. Gingival infection associated with extracted tooth region was seen in 25 percent of the patients. Haraji et al reported that the modified triangular flap decreases the incidence of Alveolar Osteitis more than the buccal envelope flap. In this study he examined the patients who were candidates for extraction of a bilaterally impacted mandibular third molar with the same difficulty index; a modified triangular flap was placed on one side and a buccal envelope flap (control) was placed on the other side, Alveolar Osteitis and healing were assessed at three and seven days after surgery. Another study was done by Eshghpour M et al to ensure the association between the menstrual cycle and the frequency of alveolar osteitis (AO), in this study the patients with bilateral impacted third molar teeth underwent randomized surgical extraction: one tooth during the menstrual period and one during the middle of the cycle, the postoperative examiner was unaware of the menstrual cycle status of the patients, the overall frequency of AO was 23.45%. The frequency of AO was significantly greater in the middle of the cycle than during the menstrual period in both the Oral Contraceptive users and nonusers, Although Oral Contraceptive users revealed a significantly greater frequency of AO compared with nonusers.<sup>12, 13</sup>

Bortoluzzi MC et alobserved the incidence of dry socket and they reported that there were higher pain levels and pain persisting longer than two days were observed with more traumatic surgeries, or associated with postoperative complications. Smoking was found to be statistically associated with the development of postoperative complications. Mohammed H Abu Younis and Ra'ed O Abu Hantashreported that smoking, surgical trauma and single extractions are 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 have no effect on the observation 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. The incidence of dry socket was significantly higher in smokers (12%) than in nonsmokers (4%). However, there is a strong association between the amount of smoking and the incidence of dry socket. The incidence of dry socket was significantly higher in the single extraction cases (13%) than in the multiple extraction cases (5%), age, sex, medical history, extraction site, amount of local

anesthesia and experience of operator play no role in the occurrence of dry socket.<sup>14, 15</sup>

# CONCLUSION

Dry socket is one of the most common complications in day to day dental practice and is one of the unavoidable thing. One should know the risk factors for the same and try to avoid them in clinical practice.

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