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Original Research

Evaluation of predisposing risk factors of dry socket after tooth extraction

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ABSTRACT:

Background: The present study was undertaken for assessing the incidence and risk factors of dry socket following tooth extraction. **Materials and methods:** One hundred patients were included in this study which was carried out in one month duration. A relevant questionnaire was prepared to assess information like age and sex of patient, site of tooth extraction, any systemic illness, history of smoking, oral hygiene status, tooth extraction technique (surgical or non-surgical).During follow up appointments only 6 patients reported with dry socket. **Results:** In the present study, dry socket was seen in 7 patients. Percentage of dry socket cases was higher in surgical extraction cases. Smoking as a factor increased the chance of dry socket. Patients with systemic diseases showed significant difference in the occurrence of dry socket. **Conclusion:** The incidence of dry socket was found to be more in the presence of predisposing factors like middle age, sex predilection, smoking and the level of difficulty during extraction.

Key words: Dry socket, Alveolar osteitis.

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INTRODUCTION

Alveolar osteitis (AO), most commonly known as "dry socket," is one of the most common complications after exodontia. The incidence is most commonly reported between 0.5% and 5%, but some studies have noted it as high as 68%.The condition is characterized by prolonged moderate to severe pain at the site of tooth extraction. This can result in multiple visits for management and symptom relief. The cause is widely believed to be the fibrinolytic theory. The extraction socket is characterized by an area of the exposed bone secondary to the absence of a fibrin clot or loss of clot after formation.Although alveolar osteitis is a common complication, there is still some uncertainty about the pathophysiology.[1- 3]

It has been suggested that an increased local fibrinolytic activity is the main etiological factor of dry socket. The increase in fibrinolytic activity could result in a premature loss of the intra-alveolar blood clot after extraction. The fibrinolysis is the result of plasminogen pathway activation, which can be accomplished via direct (physiologic) or indirect (non-physiologic) activator substances. Direct activators are released after trauma to the alveolar bone cells. Indirect activators are secreted by bacteria. Apart from the relation with the fibrinolytic process the exact etiology of dry socket is not well understood.[4- 6]The present study was undertaken for assessing the incidence and risk factors of dry socket following tooth extraction.

MATERIALS AND METHODS

The present study was undertaken for assessing the incidence and risk factors of dry socket following tooth extraction.One hundred patients were included in this study which was carried out in one monthduration. A relevant questionnaire was prepared to assess information like age and sex of patient, site of tooth extraction, any systemic illness, history of smoking, oral hygiene status, tooth extraction technique (surgical or non-surgical).During follow up appointments only 6 patients reported with dry socket. All collected data was analysed by SPSS software was used to analyse the acquired data by descriptive analysis and Fisher exact test.

RESULTS

In the present study, dry socket was seen in 7 patients. Hence; overall incidence of dry socket was 7 percent.

The mean age group with dry socket was 55.6 years and without dry socket 42.3 years. Higher incidence of dry socket was seen among females and in the mandibular arch. Percentage of dry socket cases was higher in surgical extraction cases. Smoking as a factor increased the chance of dry socket. Patients with systemic diseases showed significant difference in the occurrence of dry socket.

Table 1: Mean Age Group With Dry Socket

Mean age	Average age	Standard deviation	P value
With dry socket	55.6	12.3	0.000 (Significant)
Without dry socket	42.3	14.8	

Table 2: Gender Predilection

Gender	Not present	Present	P value
Female	44	5	0.001 (Significant)
Male	49	2	

Table 3: Role of Surgical Extractions

Type of extraction	Not present	Present	P value
Surgical extraction	38	4	0.001 (Significant)
Non-surgical extraction	55	3	

Table 4: Effect of Smoking

Smoking status	Not present	Present	P value
Smoker	40	5	0.003 (Significant)
Non-smoker	53	2	

Table 5: Risk From Systemic Diseases

Systemic diseases	Not present	Present	P value
Present	24	3	0.002 (Significant)
Absent	70	3	

DISCUSSION

Dry socket, is the most common complication following a dental extraction and one of the most studied complications in dentistry. There are up to 17 different definitions for the clinical diagnosis of dry socket. Blum described dry socket as the presence of “postoperative pain in and around the extraction site, which increases in severity at any time between one and three days after the extraction, accompanied by a partially or totally disintegrated blood clot within the alveolar socket, with or without halitosis” excluding any other cause of pain on the same side of the face. Its incidence is approximately 3% for all routine extractions and can reach over 30% for impacted mandibular third molars, and many factors have been cited as contributing to the occurrence of dry socket including difficult or traumatic extractions, female sex, tobacco use, oral contraceptives and preexisting infection.[6- 10]The present study was undertaken for assessing the incidence and risk factors of dry socket following tooth extraction.

In the present study, one hundred patients were included in this study which was carried out in one month duration. A relevant questionnaire was prepared to assess information like age and sex of patient, site of tooth extraction, any systemic illness, history of smoking, oral hygiene status, tooth extraction technique (surgical or non-surgical).During follow up appointments only 6 patients reported with dry socket. Taberner-Vallverdú M et al analyzed the efficacy of different methods used in the management of dry socket regarding results of pain's relief and alveolar mucosa healing compared to conventional surgical treatment of curettage and saline irrigation. A Cochrane and PubMed-MEDLINE database search was conducted with the search terms "dry socket", "post-extraction complications", "alvogyl", "alveolar osteitis" and "fibrynoliticalveolitis", individually and next, using the Boolean operator "AND". The inclusion criteria were: clinical studies including at least 10 patients, articles published from 2004 to 2014 written in English. 11 publications were selected from a total of 627. Three of the 11 were excluded after reading the full text. The final review included 8 articles: 3 prospective studies, 2 retrospective studies and 3 clinical trials. They were stratified according to their level of scientific evidence using the SORT criteria (Strength of Recommendation Taxonomy).All treatments included in the review have the aim to relief patient's pain and promote alveolar mucosa healing in dry socket.[10]Tarakji B et al search in the Pub Medline database between 2008 to 2013, using specific words "dry socket, aetiology, treatment and prevention" and published in the English language, the articles were screened by abstract for relevance to aetiology, treatment and prevention of dry socket, 82 papers were identified in pub med but a total of 36 out of Publications were included in the final systemic

review according to the specific keywords and materials mentioned above. The occurrence of dry socket in an everyday oral surgery or dental practice is unavoidable. The risk factors are smoking, surgical trauma, single extractions, age, sex, medical history, systemic disorder, extraction site, amount of anaesthesia, operator experience, antibiotics use prior to surgery, difficulty of the surgery and the previous surgical site infection in addition to oral Contraceptives, menstrual cycle and immediate postextraction socket irrigation with normal saline. The traditional options of treatment are directed toward palliative care, such as the irrigation of the surgical site, avoiding curetting the extraction socket, Packing with a zinc oxide- eugenol paste on iodoform gauze can be considered to relieve acute pain episodes, there is also new agents in the market can accelerate the healing of the socket such as PRGF and GECB.[11]

CONCLUSION

Incidence of dry socket was found to be more in the presence of predisposing factors like age,sex, smoking and the level of difficulty during extraction. C. Chlorhexidine for prevention of alveolar osteitis: a randomised clinical trial. J Appl Oral Sci. 2018;26:e20170245.

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