Original Article

Incidence of Dry Socket in Islam Dental College, Sialkot

Salman Ahmad[1], Shakeel Ahmad[1], Muhammad Mudassar[2], Rehana Kausar[3], Amina Sagheer[4] and Sajal Ali[5]

ABSTRACT

Objective: To find the incidence of dry socket among tooth extraction cases operated in Islam Dental College Sialkot.

Study Design: Retrospective study

Place and Duration of Study: This study was conducted at the Oral and maxillofacial surgery department of Islam Dental College Sialkot from 1st January 2020 to 31st December 2021.

Materials and Methods: Patient records of extraction and follow up from last two years were assessed and incidence of dry socket was calculated. The various factors like gender, mode of extraction and post operative use of antibiotic was also assessed using statistical analysis.

Results: Out of 940 patients, 52 patients were diagnosed with dry socket and managed post-operatively. Surgical extraction had higher incidence (21.7%) than simple extraction (4.2%).

Conclusion: The incidence of dry socket after surgical extraction, female patients and smokers is relatively higher incidence of dry socket whereas the patients who took antibiotics post-operatively had less chances of developing this complication.

Key Words: Dry socket, surgical extraction, smoker patients.

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INTRODUCTION

Dental extraction is one of the most common procedures performed in dental clinic worldwide[1].Dry Socket or Alveolar osteitis (AO) is one of the most common post extraction complication. It is also referred as necrotic socket, Alveolitis, Sicca Dolorosa or localized osteitis. It is characterized by severe pain in and around the extraction socket whose severity increases from 1st to 3rd day after extraction accompanied by total or partial loss of blood clot with food debris in the socket[2]. Clinically there may be mild swelling, redness of the gingival tissue, halitosis, bone exposure with severe tenderness on palpation. In case of dry socket, pain increases on the3rd postoperative day and continue throughout the week. Though it is a self-limiting condition, but causes lot of problem for the patient[3].

1. Department of OMFS / Oral Medicine[2] / Community Dentistry[3] / Periodontology[4] / Anatomy[5], Islam Dental College, Sialkot.

Correspondence: Dr. Salman Ahmad, Senior Registrar, OMFS, Islam Dental College, Sialkot.
Contact No: 03216149213
Email: salman.insomniac@gmail.com

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The incidence of dry socket mentioned in literature ranges from 0.5 to 5.6% after simple extraction and up to 30% following surgical extraction [4-6]. Associated risk factors are traumatic, difficult and prolonged extraction, pre and postoperative infection, smoking, oral contraceptives, bone disorders and underlying pathologies, irradiation, systemic illness such as diabetes mellitus, clotting problems, and failure to comply with post extraction instructions. However exact cause of dry socket is still not clear[7-9].

MATERIALS AND METHODS

The clinical record of the patients who had undergone extraction in our department, was evaluated from 1st January 2020 to 31st December 2021. The patient's age was from 16 and above. The patients were labeled as cases of dry socket that presented to our department in follow-up with complaint of pain that increased 2 to 3 days after tooth extraction, having exposed sockets and were managed with application of intra-alveolar dressing.

RESULTS

Total of 940 patients were included in the study, out of which 1012 extractions were performed on patients with age ranges from 18 to 85 years. Out of which 74 patients had undergone surgical extractions. The gender distribution was 58.3% (n=548) female whereas 41.7% (n=392) were male with ratio 1.3:1.

The antibiotics were prescribed in 48% (n=450) of the patient postoperatively. 13.5% (n=127) of the patients were smoker or smokeless tobacco user. The incidence of dry socket after simple extraction was4.2% (n=36). While in surgical extraction, 21.7% (n=16)cases of dry socket were reported. The collective incidence of dry socket in our center was 5.5%(n=52). Dry socket was reported 4.3%(n=17) in male patients whereas in females it was 6.3%(n=35).13.5%(n=127) patients were smoker with 8.7%(n=11) dry socket rate while 86.4%(n=813) nonsmokers' patients had comparatively less incidence of dry socket which was 5.0%(n=41).

Table No.1: Gender distribution and dry socket percentage

Gender	Patients	Dry socket
Male	41.71% (n= 392)	4.3% (n=17)
Female	58.3% (n= 548)	6.3% (n=35)
Total	N= 940	N=52

Table No.2: Relation of dry socket and smoking

Patients	Percentage	Dry Socket
Smokers	13.5% (n=127)	8.7%(N=11)
Non smoker	86.4% (n=813)	5.0% (N=41)
Total	N=940	N=52

Table No.3: Relation of dry socket and mode of extraction

Patients	N=940	Dry socket 5.5% n=52
Simple Extraction	92.2% (n=866)	4.2% (n=36)
Surgical Extraction	7.8% (n=74)	21.7% (n=16)

Table No.4: Relation of dry socket and antibiotics

Patients	N=940	Dry socket
Antibiotic Prescribed	47.9% (n=450)	4.8% (n=22)
Without Antibiotics	52.1% (n=490)	6.14% (n=30).

DISCUSSION

Tooth extraction is one of the most feared dental procedures performed, which is associated with pain and morbidity post-operatively[1, 2, 10]. Many patients are hesitant to undergo tooth extraction and delay it as it can bring lot of pain after the effects of anesthesia wear off. Dry Socket is a complication of tooth extraction in which patient experience growing pain after 3rd day of extraction[11, 12]. There are a lot of risk factors associated with the higher incidence of dry socket however exact cause is still unclear. In our study, the incidence of dry socket was higher in female (6.3%) as compared to male (4.3%) which can be related to the female hormonal status (estrogen) or use of oral contraceptive. In the study of Yumi, they concluded that the risk dry socket of women taking contraceptive can be two folds as compare to women not taking any contraceptives[13,14,15]. One of the major risk factors of dry socket was the mode of extraction. In patients where tooth was surgically removed had 21.7% incidence of dry socket as compare to the patient where non-surgically removed. Our percentage is comparable with other studies where incidence of dry socket after surgical extraction ranges from 20 to 30%[12,16]. Surgical extraction causes more trauma to the tissues as compared to simple extraction so chances of clot dislodgment after surgical extraction is higher. Also, surgical technique and surgeon's skill play a role in this post-operative complication which needs to be evaluated in further studies. In literature, smoking is also associated with dry socket with the range of 3.4% to 12% and up to 40% after surgical extraction[17, 18]. In our study 13.5% patients were smoker, who had the incidence of dry socket of 8.7%, though all of the smokers were male patients. The sucking action of smoking a pipe or cigarettes creates a negative pressure which can dislodge the blood clot and leads to dry socket[19]. The patients who were prescribed with antibiotics post-operatively had the incidence of dry socket of 4.8% as compared to the group of patients where no antibiotics were prescribed. The less incidence of the dry socket in patient who took antibiotics could be due to the better control of certain bacteria in oral cavity responsible for clot lysis. In literature variety of antibiotics were used for prevention of dry socket with limited success[20-22].The status of patient's oral hygiene and incidence of dry socket is also associated in literature; however, this relationship could not be identified in our study due to lack of patient records relating to the oral hygiene[23,24].

CONCLUSION

The incidence of dry socket was seen higher after surgical extraction in female gender and smokers. Further studies with large sample scales are required to assess other possible relationships. This painful self-limiting condition could be treated with application of intra socket dressing.

Author's Contribution:

Concept & Design of Study:	Salman Ahmad
Drafting:	Shakeel Ahmad, Muhammad Mudassar
Data Analysis:	Rehana Kausar, Amina Sagheer, Sajal Ali
Revisiting Critically:	Salman Ahmad, Shakeel Ahmad
Final Approval of version:	Salman Ahmad

Conflict of Interest: The study has no conflict of interest to declare by any author.

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