

Clinical Presentation of Dry Socket at Teaching Hospital of Hyderabad City

1. Bushra Arain 2. Suneel Kumar Punjabi 3. Qadeer-ul-Hassan 4. Arsalan Ahmed Shaikh

1. M.Sc.Resident, OMFS Dept., 2. Asstt. Prof., OMFS Dept., 3. Assoc. Prof., OMFS Dept., 4. Senior Registrar, ENT Dept., LUMHS, Jamshoro

ABSTRACT

Objective: To find out frequency and clinical presentation of dry socket in Department of Oral and Maxillofacial Surgery Liaquat University of Medical & Health Sciences, Jamshoro.

Study Design: Observational study.

Place and Duration of Study: This study was carried out at Department of Oral & Maxillofacial Surgery, Liaquat University of Medical & Health Sciences, Jamshoro from Jan 2011 to June 2012.

Materials and Methods: Age from 11 to 70 years with both gender groups was included in the study. They were observed for the presence of dry socket. Patients with previous history of two or more days of extraction, pain, sensitivity on gentle probing of the extraction socket and empty/ partially empty socket were included in the study. Data was analyzed using SPSS version-13.

Results: Total 2300 extractions were included in study; dry socket was recorded in 66 (3.3%) routine dental extraction except 3rd molars and 598 (26%) surgical& non-surgical extraction of 3rd molar respectively. Majority of the patients belong to 3rd decade of life

Conclusion: In oral Surgery practice dry socket is unavoidable, but oral surgeons must identify additional risk factors in patients with particular medical conditions and include this information as a part of the informed consent.

Key Words: Dry socket, Prevalence, Halitosis, Prevention.

INTRODUCTION

Dry socket (Alveolar osteitis) defined as frequently experienced postoperative complication characterized by inflammation inside and surrounding areas of socket with stressful severe throbbing pain which aggravates in extracted socket between the first and third post extraction day, accompanied by completely or partially devoid of the intraalveolar blood clot and with or without halitosis.^{1,2} The term Dry Socket was recognized by an American dentist James Young Crawford in 1896, who used it to define a socket absence of blood clot and always associated with severe pain.³ Several other terms have been suggested for this condition such as alveolar osteitis, localized osteitis, necrotic alveolitis, and fibrinolytic alveolitis, and alveolalgia.⁴ Although, the term dry socket is still the most common term used for this disorder.⁵

Even though the etiology of dry socket is argued, it is may be multifactorial and its exact pathogenesis not universally recognized but usually supposed that postoperative clot fibrinolysis following by bacterial invasion is most common cause of dry socket.⁴

Many other factors as well stimulate to the incidence of dry socket for instance in experienced operator, surgical trauma, preoperative infection, gender, site of extraction, use of oral contraceptives, smoking, and use of local anesthetics with vasoconstrictor.⁶

Women are more susceptible to evolving alveolar osteitis due to the use of contraceptives and usually Individuals above age 30 also show a higher ratio.⁷ The frequency of dry fluctuant from 1% to 4% of all

extractions⁸ but it is generally supposed that dry socket is maximum seen as a result of the removal of impacted third molars, with an frequency of 20-30%.²

The occurrence is greater in the mandible as compared with maxillary molars with the ratio of 10:1.⁹

An increased incidence of dry socket ensues in the presence of pericoronitis, periodontitis, gingivitis, Periapical infection, and in Patients with poor oral hygiene.^{6,7}

To prevent the of prevalence dry socket numerous techniques are stated such as the use of antibiotics, antifibrinolytic agents, Chlorohexidine mouthwashes, application of medicated packing into the extraction sockets, steroids and intra-alveolar ointments.¹⁰

The rationale of this study was to conclude the incidence of dry socket following extraction of permanent teeth and its clinical presentation after extraction.

MATERIALS AND METHODS

The setting of study was carried at Oral & Maxillofacial Surgery Department of Liaquat University of Medical & Health Sciences, during the year January 2011 to June 2012. The study was undertaken with two thousand patients of both genders. Individuals from 11-70 years age had go through one or multiple extractions were observed for the incidence of dry socket. The analytic measures for dry socket were centered on history of dental soreness after extraction, clinical examination for sensitivity of socket, trismus and halitosis.

Pain was measured by visual analogues scale. Pain subjectively from out of three i.e. mild pains as ranged

from 1-4, moderate pain ranged from 5-7 and severe pain as ranged from 8-10. Sensitivity test was taken by gentle probing of the extraction socket. Halitosis and trismus were assessed. Patients had inter-incisal space less than 30 were considered as having trismus. This space was measured with ruler. Socket was considered as partial or fullempty. Data was calculated using SPSS version-13. Graphic figures were used for age, gender, pain, sensitivity, halitosis, trismus, site and number of extracted tooth, and oral hygiene.

RESULTS

Total 2300 extractions were observed in a one and half year.

Out of the 2000 patients, dry socket was recorded in 66(3.3%) routine dental extraction except 3rd molars and 598 (26%) surgical & non-surgical extraction of 3rd molar respectively.

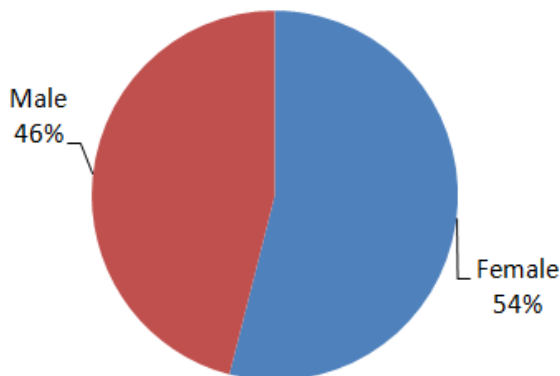
Out of this dry socket developed with high incidence of mandibular third molar extraction 425(71.07%) followed by maxillary 3rd molar impaction 173 (28.87%).

The age of patients were ranged from 11 to 70 years. The maximum incidence was seen in 21 to 30 year age group followed by 31 to 40 years. In our study youngest patient was 17 years and oldest patient was 70 years old.

This study was evaluating the overall frequency of dry socket; teeth were assembled according to anatomical sites for purpose of analyzing dry socket frequency that was approximately 3.3% for all routine extractions and become over 26% for surgical & non-surgical extractions of 3rd molar impactions.

Table No.1: Distribution of Extractions & Dry Socket

Tooth Type	Maxilla	Mandible
Canine	2 (2.2%)	7(8.0%)
Premolar	3(3.4%)	9(10.3%)
1 st Molar	9(10.3%)	22(25.28%)
2 nd Molar	2(2.2%)	11(19.5%)
3 rd Molar	173(28.7%)	425(71.7%)



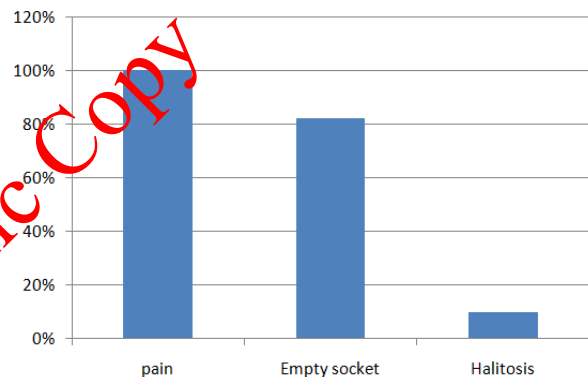
Graph No.1: Gender distribution of patients

Table No.2: Distribution of patients according to Age Group (N=2000)

Age groups	Routine Extraction	3rd molars Extraction
11-20	09	08
21-30	34	337
31-40	26	239
41-50	11	14
51-60	5	-
61-70	2	-
total	66	598

Table No.3: Showing Patients Presents With Pain

Post-operative pain	No of patients	percentage
immediately	18	3.01%
In 24 hours	42	7.02%
In 48 hours	138	23.07%
In 72 hours	292	48.82%
After 72 hours	108	18.06%
total	598	100%



Graph No. 2 Showing Clinical Features

DISCUSSION

Dry socket is an annoying distressing complication of tooth extraction and as suggest in many theories, the accurate etiology of the disorder is unidentified, though many influencing factors have been discussed, however generally thought that partial or total premature loss of the blood clot that forms in the interior of the alveolus after extraction.¹³

Throughout this research study, the over-all proportion of dry socket was 66 (3.3%) in total 2300 extractions out of two thousand patients. overall of 598 (26%) 3rd molar extractions were complicated by dry socket including 425(71.07%) in mandible followed by maxilla 173 (28.87%).

The prevalence of dry socket in this study was considerably higher in the mandible (71.07%) than in the maxilla (28.9%). The outcome of this study concerning about mandible to maxilla correlation equals other studies for instance the findings of Upadhyaya C¹⁶ also equivalent to this study according

to them maximum number of the dry socket were happened in mandibular teeth (68.93%) than maxilla (31.06%).

Oganni FO¹⁵ and khitab U et al⁴ also has been found that the mandibular third molar had the upper most occurrence of dry socket. The potential description of raised risk in the mandible than maxilla may be due to increased bone density, decreased vascularity, and a reduced capacity of producing granulation tissue.¹⁴

This Study shows females (54%) were more than males in dry socket with female male ratio 1:0.85, these findings were comparable with the results of Fahimuddin¹¹, but challenge with the results of Abu Younis M⁶ where males were more susceptible than females. The reason for the high percentages of female may be due to; probably use of oral contraceptive.⁴ similarly higher female to male ratio was reported by Upadhyaya C¹⁶, according to them, occurrence of dry socket was higher in female patients.

The age of patients were from 11 to 70 years, the outcomes in this study in relation to age discovered that the maximum frequency was in the third and fourth decades, with a highest prevalence in the 21-30 year age group, followed by 4th decay.

The cause for this age involving is still scientifically unclear.⁴ Qadus A et al³ shown almost same results about the age gender frequency, site distribution of teeth. According to him females were 2.37 times more disposed to dry socket as compared to males. However, dry socket was established 2.94 times more common in mandibular extractions as compared to maxillary.

Postoperatively throbbing pain, empty socket followed by halitosis were the most common clinical feature. In our study tenderness and gentle probing was present in all patients. Pain with empty socket present in 492(82%) individuals. Halitosis was present 61(%). Similar results were shown in the study by Fahimuddin¹¹, Upadhyaya C¹⁶ and Nusair¹⁷ Pain was ordered individually as severe accordingly visual analogue scale. According to Fahimuddin¹¹ he stated that Dry socket soreness is due to nerve endings exposure in the bone of the socket to air, diet, liquids and release kinins from traumatized tissue which liberates pain mediators. In this study resulting removal of the tooth, 9 (3%) patients immediately report an early upgrade in pain followed by 42(7%) in 24 hours, 138 (23%) in 48 hours, 294 (49%) in 72 hours and 114(19%) patients next to 72 hours develop severe, unbearable, continuous pain.

Regarding treatment modality for dry socket our focus is to relieve the patients from severe pain and associated clinical features so that it improves the patient's quality of life. Various treatment options are available for dry socket like; Topical application of eugenol, Iodoform and Butylpara-minobenzoate^{18,19} or mixture of above have been used. According to Ikram et al application of honey to empty socket has also been found effective²⁰.

CONCLUSION

In oral Surgery practice dry socket is unavoidable, but Oral Surgeons must identify additional risk factors in patients with particular medical conditions and include this information as a part of the informed consent.

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Address for Corresponding Author:

Dr. Bushra Arain,
M.Sc.Resident, OMFS Dept.,
LUMHS, Jamshoro

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