

Original Research

Analysis of risk factors of dry socket

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ABSTRACT:

Background: Dry socket, also known as alveolar osteitis, is a painful dental condition that can occur after tooth extraction. The present study was conducted to assess risk factors of dry socket. **Materials & Methods:** 124 patients who underwent extraction were selected and the incidence of dry socket was recorded. The number of carpules used for anesthesia, the anesthesia technique, the location of the teeth taken, the usage of oral contraceptives, smoking status, systemic disorders, and antibiotic consumption prior to extraction were also recorded. **Results:** Out of 124 patients, males were 52 and females were 72. Out of 124 patients, dry sockets seen in 8 (6.4%). Common risk factors of dry socket were smoking in 5, diabetes seen in 7 and systemic diseases in 2 patients with dry sockets. The use of pre-anaesthetic antibiotic consumption in 3 patients. The use of <2 carpules seen in 2 and >2 carpules in 4. Anesthetic technique used was field block in 4 and regional block in 2 patients. Dry socket was seen in 2 males and 4 females. The difference was significant ($P < 0.05$). **Conclusion:** The common risk factors of dry socket was female gender, use of field block anesthetic technique, smoking, diabetes and systemic diseases.

Key words: Dry sockets, smoking, diabetes

Received: 17 February, 2024

Accepted: 20 March, 2024

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This article may be cited as: Kaur A. Analysis of risk factors of dry socket. Int J Res Health Allied Sci 2024; 10(2):8-11.

INTRODUCTION

Dry socket, also known as alveolar osteitis, is a painful dental condition that can occur after tooth extraction. When a tooth is removed, a blood clot forms in the socket to protect the underlying bone and nerves as the area heals.¹ However, sometimes this blood clot can become dislodged or dissolve prematurely, leaving the bone and nerve exposed to air, food, fluids, and other irritants. This can result in intense pain that typically begins a few days after the extraction and may radiate to the ear and jaw.² Several factors can increase the risk of developing dry socket after a tooth extraction. Smoking can significantly increase the risk of dry socket because it impairs blood flow to the extraction site, which can interfere with the formation of the blood clot necessary for proper healing. Some studies have suggested a link between the use of oral contraceptives (birth control pills) and an increased risk of dry socket.³ Estrogen in oral contraceptives may affect blood clotting and healing processes. Inadequate oral hygiene before and after the tooth extraction can increase the

risk of infection, which can disrupt the formation of the blood clot or lead to its dislodgement. Individuals who have experienced dry socket in the past may be at a higher risk of developing it again with subsequent extractions.⁴ Surgical or difficult extractions, particularly those involving multiple roots or impacted teeth, can increase the likelihood of dry socket due to the greater trauma to the surrounding tissues. Younger age and female gender have been identified as potential risk factors for dry socket, though the reasons for these associations are not entirely clear.⁵ The present study was conducted to assess risk factors of dry socket.

MATERIALS & METHODS

The present study was conducted on 124 patients who underwent extraction of both genders. All were informed regarding the study and their written consent was obtained. Data such as name, age, gender, etc. was recorded. The incidence of dry socket was recorded. Recorded were variables such the number of carpules used for anesthesia, the anesthesia technique, the

location of the teeth taken, the usage of oral contraceptives, smoking status, systemic disorders, and antibiotic consumption prior to extraction. Results thus

obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table: I Distribution of patients

Total- 124		
Gender	Males	Females
Number	52	72

Table I shows that out of 124 patients, males were 52 and females were 72.

Table: II Incidence of dry socket

Total	Dry socket	Percentage
124	8	6.4%

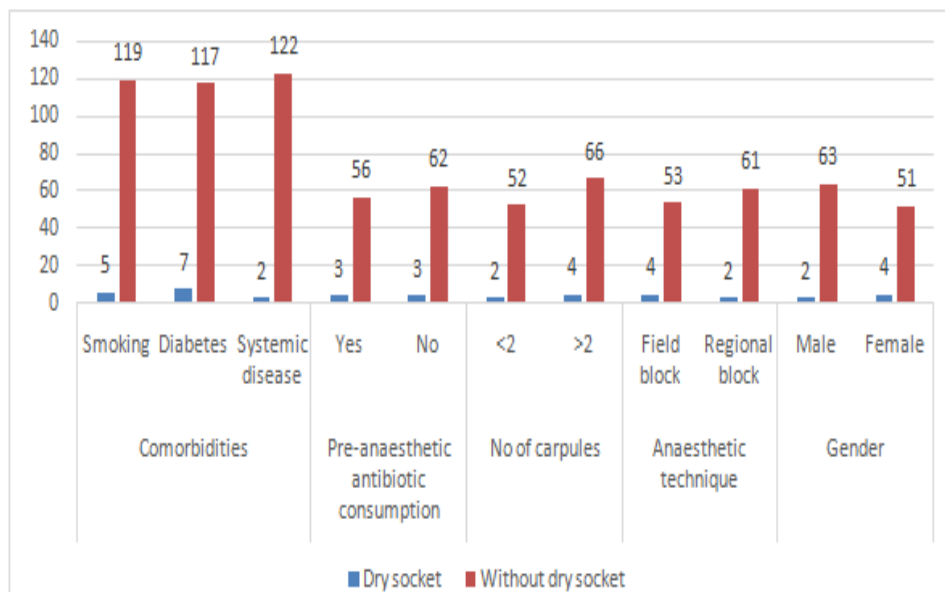
Table II shows that out of 124patients, dry socketswas seen in 8 (6.4%).

Table: III Assessment of risk factors

Parameters	Risk factors	Dry socket	Without dry socket	P value
Comorbidities	Smoking	5	119	0.01
	Diabetes	7	117	
	Systemic disease	2	122	
Pre-anaesthetic antibiotic consumption	Yes	3	56	0.03
	No	3	62	
No of carpules	<2	2	52	0.05
	>2	4	66	
Anaesthetic technique	Field block	4	53	0.01
	Regional block	2	61	
Gender	Male	2	63	0.01
	Female	4	51	

Table III, graph I shows that common risk factors of dry socket was smoking seen in 5, diabetes seen in 7 and systemic diseases in 2 patients with dry sockets. The use of pre-anaesthetic antibiotic consumption in 3 patients. The use of <2 carpules seen in 2 and >2 carpules in 4. Anesthetic technique used was field block in 4 and regional block in 2 patients. Dry socket was seen in 2 males and 4 females. The difference was significant (P< 0.05).

Graph: I Assessment of risk factors



DISCUSSION

In post-extraction dentistry, a "dry socket" is a socket in which part or all of the bone is visible in the days that follow extraction because either the bone was not covered by a layer of healing epithelium that is vital and persistent, or the bone was not covered by an initial and persistent blood clot.⁶ Frequent acute pain may come from the patient's inability to stop food particles or the tongue from mechanically stimulating the exposed bone, which hurts intensely to the touch. With the exception of the exposed bone, all areas of a dry socket lesion can be delicately touched with the tip of an irrigation needle or periodontal probe without experiencing severe pain.⁷ Roughly 1% to 5% of all extractions and up to 38% of mandibular third molar extractions result in dry socket lesions. For mandibular third molars that are impacted, its incidence can exceed 30%.⁸ A few contributing factors that encourage dry socket include difficult or painful extractions, female gender, tobacco usage, the extraction site, oral contraceptives, and previous infections. Common symptoms of dry socket include severe pain, bad breath, an unpleasant taste in the mouth, and visible bone in the socket. Smoking, and certain oral contraceptives can increase the risk of developing dry socket.⁹ Factors that impair blood clot formation or stability, such as certain systemic conditions or medications that affect blood clotting, can increase the risk of dry socket.¹⁰ Vigorous rinsing or spitting in the first few days after extraction can dislodge the blood clot and increase the risk of dry socket. Extractions performed in the upper jaw (maxilla), particularly in the molar area, may have a higher risk of dry socket due to anatomical differences and reduced blood supply compared to the lower jaw (mandible).¹¹ Activities such as drinking through a straw, vigorous physical activity, or heavy lifting immediately after extraction can increase the risk of dry socket by disrupting the blood clot.¹² The present study was conducted to assess risk factors of dry socket. We found that out of 124 patients, males were 52 and females were 72. Out of 124 patients, dry sockets were seen in 8 (6.4%). Mudali et al¹³ identified the prevalence, distribution of dry socket by tooth type and location, and risk factors in a public health setting. complete patient data, including demographics, the total number of permanent teeth taken, the number of dry sockets experienced, and the number of risk factors related to smoking, using contraceptives, and having systemic diseases. A total of 2281 permanent teeth extractions were made from 2214 individuals who were reviewed. The total rate of dry socket was 1.8%, with females, people in their second and third decades of life, and mandibular teeth—more especially, molars—being more likely to experience it. We observed that common risk factors were dry socket was smoking seen in 5, diabetes seen in 7 and

systemic diseases in 2 patients with dry sockets. The use of pre-anaesthetic antibiotic consumption in 3 patients. The use of <2 carpules seen in 2 and >2 carpules in 4. Anesthetic technique used was field block in 4 and regional block in 2 patients. Dry socket was seen in 2 males and 4 females. Akinbami et al¹⁴ during the four years of the study, 1,042 patients had 1362 teeth pulled; of those, 1.4% of the teeth experienced dry socket development. It was 35.2 (16.0) years old, on average (SD). The majority of patients with dry socket symptoms were in their fourth decade of age. More mandibular teeth than maxillary teeth were impacted. Molars suffered more. In the instances with dry socket, retained roots and third molars were clearly visible. In conclusion. In contrast to earlier data, our center had a decreased incidence of dry socket. Lower teeth, female gender, and oral hygiene level were all strongly correlated with the development of dry socket. The symptoms were relieved with conventional saline irrigation and Zn O eugenol dressings.

The shortcoming of the study is small sample size used in the study.

CONCLUSION

Authors found that common risk factors of dry socket was females gender, use of field block anesthetic technique, smoking, diabetes and systemic diseases.

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