

# DRY SOCKET : An Overview And Its Management

*'Dr. Ishita choudhary<sup>1</sup>, Dr. Puja Bansal<sup>2</sup>, Dr. Deepak Bhargav<sup>3</sup>*

1 Intern 2 Professor 3 Professor & HOD  
School Of Dental Sciences, Sharda University  
Greater Noida, UP, India

## ABSTRACT

Dry socket is common complication of tooth extraction. It's been recognized from many years now. Numerous studies are available discussing methods and techniques to prevent this condition. Its incidence is approximately 3% for all routine extraction and 30% for impacted mandibular third molar. There is wide range of treatment are being used in the treatment of dry socket: rinsing of socket with chlorhexidine (74%) or saline (26%); placement of a non resorbable obtundant dressing and instruction in home rinsing of socket with chlorhexidine. Over the years little progress has been made in establishing firm conclusion as how best dry socket has been managed.

**KEYWORDS:** Dry socket, Alveolar osteitis, low level laser therapy

## INTRODUCTION

Dry socket is defined as postoperative pain in and around the extraction site, which increase in severity at any time between 1 and 3 days after the extraction accompanied by a partially or totally disintegrated blood clot within the alveolar socket with or without halitosis<sup>1</sup>. The name dry socket is used because the socket has dry appearance after the blood clot is lost and washed away. The other terms used are alveolitis sicca dolorosa, localized osteitis

Clinically, an empty socket which lacks blood clots and exposed bone are seen. The socket may fill with food debris and saliva mixture. Severe pain starts after 3 to 5 days of extraction. Marked halitosis and foul taste is present

Histological features are remnants of the blood clot and a massive inflammatory response characterized by neutrophils and lymphocyte which may extend into the surrounding alveolus<sup>2</sup>

Its etiology is not well established: trauma following forced tooth extraction, excessive use of vasoconstriction in local anesthetics, infection, dislodgment of blood clot from socket due to forceful mouth rinsing, use of contraceptives, and heavy smoking have all implicated in the etiology of dry socket. Increase local fibrinolysis at the wound site is another possible mechanism.<sup>3</sup>

Due to its poorly understood etiology, a range of treatment modalities has been implicated in the treatment of dry socket with varying success. The following table shows the difference between dry socket and normal socket:<sup>21</sup>

DRY SOCKET	NORMAL SOCKET
Pain that improves, but then get worse	Pain that continues to improve
No visible blood clot, partly disintegrated blood clot	Visible blood clot
Visible exposed bone or tissue	No visible exposed bone
Bad taste in mouth	No change in taste
Bad smells coming from wound, which may lead to bad breath	No bad smell evident

## MANAGEMENT

The treatment of dry socket begins with gently curettage to debride the slough in socket, followed by irrigation and creation of new blood clot. The irrigation solution use may comprise of physiological saline solution or other irrigant solution such as chlorhexidine and hydrogen peroxide<sup>4</sup>. This is then followed by insertion of a dressing into a socket that comprise of medicaments such as alvogyl, zinc oxide eugenol, oil of clove/eugenol, colloidal silver or antibiotic dressing such as chlortetracycline, rifampicin, clindamycin, and metronidazole gel<sup>5,6</sup>. The wound debridement is basic principle of the management in poor wound healing mechanism and creation of a new clot revive the wound healing mechanism. Pain control is considered the primary goal of dry socket treatment. Topical anesthetic gel applied directly onto the dry bare bone seems to bring immediate and effective relief<sup>7,8</sup>. Zinc oxide eugenol has a more potent analgesic, sedative and anodyne effect as well as having antibacterial properties<sup>9</sup>. Neocane is antibiotic-analgesic medicaments containing polymyxine B sulfate, which has an effect on gram negative bacteria<sup>10</sup>. Socket irrigation with appropriate solution is necessary allowing a clean socket bed to begin its healing process. Hydrogen peroxide seems to be the oldest irrigant used. Hydrogen peroxide is a strong oxidizing agent releases oxygen and kill anaerobes while its foaming action causes oozing and bubbling out of food debris from the dry socket site. However hydrogen peroxide is caustic, and it has been replaced with chlorhexidine gluconate 0.2% or 0.12%.

Therapeutic intervention	Features
Zinc oxide eugenol <sup>17 18 19</sup>	Gauze or ointment formulation, Antiseptic and anesthetic properties
Alvogyl <sup>20</sup>	Includes eugenol as an analgesic, iodoform as an antimicrobial and butamen as anesthetic
G.E.C.B Pastille <sup>19</sup>	Includes 3% eugenol, 3% guaiacol, 1.6% chlorobutanol as effective ingredients and balsam peru as base
Vitamin C <sup>21</sup>	Wound healing promoter and antioxidant action that reduces infection and inflammation
Plasma rich in growth factor <sup>18</sup>	Contains platelets and fibrinogen so it promotes wound healing as well as osteogenesis
Low level laser therapy <sup>2</sup>	Antimicrobial potential

It is widely accepted that systemic antibiotic should not be prescribed for the treatment of dry socket as they have no additional advantage over local treatment directed to the socket in a non-immune-compromised patient<sup>11 12 13</sup>. Vitamin C is also found to be used in the management and control of dry socket<sup>14</sup>.

Different methods in the management of dry socket

Other technologies such as low level laser therapy (LLLT) can be applied to dry socket to achieve photo-biostimulation of the healing cells during the proliferative stage, producing a regenerative effect<sup>15 16</sup> and it is also found efficient in pain control.

## CONCLUSION

-Dry socket is the most common post-extraction complication. Its etiology is not well known but various factors play an important role in its pathogenesis. There is specific treatment for dry socket: irrigation of the socket followed by placement of suitable dressing is commonly used.

## REFERENCES

- Blum IR. Contemporary review on dry socket: a clinical appraisal of standardization, aetiopathogenesis and management: a critical review. *International journal of oral and maxillofacial surgery* 2002;3(3):309-317 [PUB MED]
- Birn H. Etiology and pathogenesis in fibrinolytic alveolitis. *International journal of oral surgery* 1973;2:211-63
- Mamoun J. Dry socket etiology, diagnosis, and clinical treatment techniques. *J Korean Ass oral maxillofacial surgery* 2018;44:52-8
- Hita-Iglesias Pilar, Torres-Lageres Daniel, Fores-ruiz Rafael, Magallanes-Abad-Natale, Basallote-Gonzalez Marta, Gutierrez-Perez Jose Luis. Effectiveness of Chlorhexidine gel versus Chlorhexidine rinse in reducing alveolar osteitis in mandibular third molar surgery. *J oral maxillofacial surgery* 2008;66:441-5
- Helei Vira M, zhero Natalia I, Heleia Nazariy I, Kryvanich Vladimir. Choice of treatment method of the inflammatory process in the alveolar tooth socket. *Wiad Lek* 2019;72:1957-60 PMID:31982022
- Cebi AT. Evaluation of the effects of intra-alveolar irrigation with clindamycin, rifampicin, and sterile saline in alveolar osteitis treatment. *J Stomatol oral maxillofacial surgery* 2020;121:680-3
- Burgoyne Corey C, Giglio James A, Reese Sarah E, Sima Adamp, Laski Daniel M. The efficacy of topical anesthetic gel in the relief of pain associated with localized alveolar osteitis. *J oral maxillofacial surgery* 2010;68:144-8
- Haghigat Abbas, Bahri Najafi Rahim, Bazvad Mostafa, Badrian Hamid, Khalighiejad Avid, Goroochi Hossei. The effectiveness of GECB pastille in reducing complication of dry socket syndrome. *International J Dentistry* 2012;2012:587461
- Lopez Jimena Claudia, Zon Maria Alicia, Fernandez Hector, Adrian Marcelo Granero. Development of enzymatic biosensor to determine eugenol in dental sample. *Talanta* 2020;210:120647
- Faizel Sayed, Thomas Shazi, Yuvaraj V, Prabhu S, Tripathi Geetha. Comparison between neocane, alvogyl and zinc oxide eugenol packing for the treatment of dry socket: a double-blind randomized control trial. *J maxillofacial oral surgery* 2015;14:312-20
- Kolokythas A, Olech E, Miloro M. Alveolar osteitis: A comprehensive review of concepts and controversies. *International journal of dentistry* 2010:249073 Epub 2010
- Colby, R.C. The general practitioner's perspective of the aetiology, prevention and treatment of dry socket. *Gen dent* 1997;45(5):461-467
- Fazakerley M, Field EA. Dry socket: a painful post-extraction complication. *Dental update* 1991;18:31-34.
- Halberstein R, Abrahamshong. Clinical management and control of alveolgia with vitamin C. *Am J Dent* 2003;16:152-4
- Muragod Anil R, Swami Kartik Vijay, Thachiladi Reshma Vijay. Effect of low level laser therapy and low intensity pulsed ultrasound on pain following tooth extraction: a single-blinded study. *Int journal physiother research* 2016;4:1578-82
- Kamal Aqsa, Salman Basheer, Noor Hayati AR, Samasudin AR. Management of dry socket with low level laser therapy. *Clinic oral invest p* 2020;25:1029-33
- Burogyne CC, Giglio JA, Reese SE, Sima AP, Laskin DM. The efficacy of a topical anesthetic gel in the relief of pain associated with localized alveolar osteitis. *J Oral maxillofacial surgery* 2010;68:144-8.
- Pal US, Singh P, Verma V. Comparative evaluation of zinc oxide eugenol versus gelatin sponge soaked in plasma rich in growth factor in the treatment of dry socket: an initial study. *Contemp cli dent*. 2013;4:37-41

18. Haghghat A, Bahri Najafi R , Bazvand M, Badrian H,Khalighinejad , Goroohi H. The effectiveness of GECB Pastille in reducing complication of dry socket syndrome. International J dent. 2012;2012:587461.
19. Kaya GS ,Yapici G, Savas Z, Gungormus M. Comparison of alvogyl ,salicept patch and low level laser therapy in the management of alveolar osteitis . J oral maxillofacial surgery 2011;69:1571-7
20. Halberstein RA, Abrahmsohn GM. Clinical management and control of alveolagia with vitamin C. Am J dent .2002;16:152-4v
21. <http://www.medicalnewstoday.com/article/drysocket-vs-normal-socket>

