DRY SOCKET

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Oral and maxillo-facial surgery

Dry socket (alveolar osteitis)

Dry socket is one of the common complication after the extraction of any tooth . It occurs due to disruption of the clot within the socket.

A dry socket also referred to as alveolar osteitis is a post operative complication that interferes with the healing process that takes place after a tooth extraction. Dry socket is post operative pain inside and around the extraction site , which increases in severity at any time between the first and third day after the extraction ,accompanied by a partial or total disintegrated blood clot within the alveolar socket with or without halitosis". the socket has a dry appearance after the blood clot is lost and debris washed away. The other terms used are alveolar osteitis , alveolitis , localized osteitis , alveolitis sicca dolorosa , localized alveolar osteitis , fibrinolytic alveolitis, It occurs when the tooth socket loses the blood clot that forms after the tooth is extracted and the bone inside the socket is exposed. It occurs in 0.5-5% of routine dental extractions and 25-30% in extraction of impacted mandibular third molars.

Clinical Features

1-An empty socket which lacks a blood clot and exposed bone are seen.
2- The socket may be filled with food debris and saliva mixture.
3- Pain starts 24-72 hours after extraction. It varies in frequency and intensity and radiates to the ear and neck.
4- Headache , insomnia and dizziness may be present.
5-It is not characterized by redness , swelling , fever or pus formation but oedema of the surrounding gingiva and regional lymphadenitis is present.
6- Some times, there is marked halitosis and foul taste.

Several theories have been proposed on the etiology of dry socket .

They are trauma during extraction , bacterial infection and biochemical agents. Fibrinolysis is a process that removes fibrin deposits by enzymatic digestion of the fibrin meshwork into smaller soluble fragments.

In dry socket, there is increased fibrinolytic activity and activation of plasminogen to plasmin in the presence of tissue activators.

A fibrin clot is formed by thrombin and fibrinogen in a normal post extraction socket. Over this , the epithelium migrates. New blood vessels grow into the clot during granulation tissue, and this lead to healing.

Predisposing Factors

Extraction Site

Dry sockets occur more frequently in the mandible than the maxilla due to thick cortical bone resulting in poor perforation of blood supply the mandible. It occurs more commonly in the extraction of the third molars.

Gender

It occurs more frequently in females than males due to possible hormonal cause.

Trauma

Difficult extractions occur in older and dense bone which may have a decreased vascularity. Possibly, trauma from extraction and aggressive curettage cause the inflammation of the alveolar osseous medulla which leads to the release of cell mediators. This causes fibrinolytic activity.

Smoking

Nicotine the active drug in tobacco is absorbed though the oral mucosa. This drug increases the platelet aggregation thereby increasing the risk of microvascular thrombosis and peripheral ischemia. Proliferation of fibroblast and macrophages is also inhibited.

The incidence of dry socket was significantly higher in smokers than in non-smokers , but, there is a strong association between the amount of smoking and the incidence of dry socket.

Vasoconstrictors

Vasoconstrictors in the local anesthetics used for extraction may also contribute to the formation of dry socket. Vasocinstrictors cause temporary local ischemia which increase the risk of developing alveolar osteitis.

Microorganisms

Bacteria may also play a contributing factor in the etiology of dry socket, delayed healing may occur due to the presence of microorganisms like *Enterococcus , Streptococcus viridans , Bacillus coryneform , Proteus vulgaris , Pseudomonas aeruginosa , Escheria coli.*

Oral Contraceptives

The dry socket occurred three times more frequently in females on oral contraceptives than in those who were not taking them. Oral contraceptives elevate plasma fibrinolytic activity which affects the stability of the clot after extraction. They elevate the factors II, VII,VIII,X and plasminogen thereby increasing the lysis of blood clot.

Radiotherapy

Radiotherapy to the head and neck results in a decreased blood supply to the mandible .

Treatment

1-Gentle curration to clean the socket from food debris and any foregn body.

2- Copious irrigation with normal saline.

3-Insert small amount of antiseptic material inside the socket like alvogyl.

4- Describe anti-biotic drugs to the patient like amoxicilline and flagyl.