

Dry Socket An Apriasal And Surgical Management

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Citation

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Abstract

Dry socket is the most painful and annoying complication that occurs after dental extraction and mostly associated with mandibular third molar surgical extraction. This is also known by various terms like alveolitis, alveolalgia, alveolar osteitis, fibrinolytic osteitis and alveolitis Sicca doloerosa. These various terms reflect the uncertainty of etiopathological process of dry socket. In this presentation, the review of the clinical appearance, risk factors related to this condition and to discuss the various etiopathological theories of dry socket. An effort has been made to describe the various modalities in the management of this complication and stress has been made in prevention, analysis of various drugs used with their results. The surgical management of this condition has been presented which has contributed promptly the relief of pain as well as apprehension associated with dry socket.

INTRODUCTION

Dry socket is a most dreadful complication that occurs after a dental extraction. The first time that this term appeared in the literature was in 1896, used by Crawford¹. It has been reported that the alveolar bone is exposed to bacterial contamination². This exposition of socket walls occurred due to disturbance of the organization of blood clot and replacement by granulation tissue. The frequency of appearance of dry socket has been reported in a very wide margin from 1% to 70%³. It is generally accepted that the most of dry sockets appear after extraction of third molars, in which the occurrence of this complication is about 20-30% of dental extractions, ten times more than in rest of dental extractions⁴. As the exact and confirmed etiopathogenesis has not been established, numerous risk factors have been enumerated. Larsen⁵ and Jafar⁸ in their studies have mentioned the following risk factors which are correlated in the development of dry socket.

- The difficulty in dental extraction.
- The use of oral contraceptives.
- The surgeon's inexperience.
- Excessive intra-operative irrigation.
- More common in Females.
- With excessive use of tobacco and alcohol.

- Immunosuppression.
- Surgical trauma during extractions.
- Fibrinolytic and Proteolytic Bacterial actions.

Basically it is a localized or focal osteomyelitis without suppuration. Various authors have given names like "alveolar osteitis, alveolitis Sicca doloerosa (Dorland) and fibrinolytic alveolitis.

It is clinically recognizable by the existence of a naked alveolar socket without presence of sanguine clot, exposed bony walls, separation of gingival margins and whitish colour of the bony socket. After a dental extraction, the sanguine clot gets lost in a premature way, first adopting a grizzly coloration; it stops later and disappears completely^{3,4}. Although suppuration is not evidenced, a very important, sharp and strong pain persists that increases with the suction or, the mastication, which lasts several days.

It is not rare that the pain irradiates to the ear and the homolateral side of the head. Though rarely, it has also been reported the appearance of lymphadenopathy^{6, 8}.

The anti-fibrinolytic agents are used in order to avoid the early disintegration of the clot¹⁰. The use of soothing dressing has also been applied with success in the reduction of the post extraction dry socket¹¹. The drugs that have probably been more successful in the prevention of socket

are the antiseptic and the antibiotics, such as tetracycline, metronidazol, clindamycin, penicillin, chlorohexidine etc.¹². The antifibrinolytic agents such as tranexamic acid and propyl ester of the p-hydroxybenzoic acid are used in order to avoid the early disintegration of the clot¹⁰.

This affection has its typical appearance on the second or third day after extraction, and it usually lasts, either with or without treatment about 10-15 days. Radiological studies do not show important alternations. The main etiopathogenic theories being fibrinolytic and bacterial theories that have intended to explain the dry socket so as to understand different preventive measures. The fibrinolysis is produced according to Nitzan et al. 1978¹⁷, Nitzan 1983¹⁸, by bacterial activity and contributes to the production of the dry socket. *Treponema denticola* appeared to be responsible for the development of alveolitis. Though reduction in the incidence of this condition after the application of topical antibiotics and the use of systemic antibiotics has been reported. However, there is still confusion in the management of this complication, which is conservative and is limited to repeated dressing of different medicaments.

CARVALHO et al (1997)¹⁹, supporting the role of antibiotics in this conditions the authors used rifamycin B diethylamide (Rifocin M) associated or not with Gel foam, an experimental study was carried out on 64 male rats. The use of antibiotics for treatment of alveolar infection gained credibility with the general acceptance of bacterial theory of alveolitis. The authors had better results while using liquid antibiotics for irrigation, which was absorbed rapidly and did not allow the giant cell reaction and was readily absorbed by the walls of the socket. In conclusion they established the use of liquid Rifocin M and showed this antibiotic to be useful in the treatment of fibrinolytic alveolus and healing occurred in six days.

TORRES et al (2005)²⁰ in their effort to update and review of the literature on dry socket came to a conclusion that in spite of various types of treatments and have been projected by various authors, nevertheless, we should insist that we do not have more treatment than the symptomatic one. While the role of organisms been reestablished of dry socket, the etiologic treatment does not exist at the present time. Because of this, the best option is prevention.

They summed up by stressing, although the anti-fibrinolytic agents have shown preventive activity in dry socket, its secondary effect should dissuade their use. The use of laudries of serum, antiseptics and antibiotics systematically

have role in prevention of infection of 3rd molar mandibular surgery is the proper treatment for prevention of dry socket. However, due to secondary effect, the creation of resistance and their toxicity, the topical use has been recommended which has its own disadvantages.

Croog. G (1953)²¹ selected 105 patients of acute infection were selected and extraction was carried out, 22% of these cases resulted into dry socket. In these patients (dry socket), in 10 % of these cases were treated with curettage and the remaining acted as control. The incidence of complication like osteomyelitis was not significant in both these cases concluding that there is no significant effect of curettage in dry socket.

Martis C. Karavonta I. Lazaridis N. (1978)²² Extracted 720 impacted mandibular third molars in the presence of acute pericoronitis, employing as atraumatic an operative technique as possible, did not give rise to serious complications, such as osteomyelitis, brain abscess, septicemia or facial space abscess. The results have been compared with the control group of 1000 impacted mandibular third molars extracted without presence of acute infection.

SURGICAL MANAGEMENT OF “DRY SOCKET”

Senior author after qualifying M.D.S. degree in oral and Maxillofacial Surgery in 1961 joined the up coming Govt. Dental College Indore. During this period the OPD was more than 350 per day and the most common dental treatment was extraction of the teeth. The highly prevalent complications were, post extraction hemorrhage, infected sockets, cellulites and dry socket.

It was during this period that Carvalho et al's¹⁶ article pertaining to the incidence of complications after extraction of teeth in acute infection was compared with extraction of teeth without any obvious infection. The complication incidences, during both situations were equal thus pointing out that in acute infection the surgery can be carried out. Croog has also confirmed this conclusion. G (1953)²¹, and Martis C. et al (1978)²².

Taking the above in view the cases of dry socket were treated surgically. Under block anesthesia the clot devoided socket with whitish and necrosed appearance was thoroughly curetted, both from the floor of the socket as well as from the bony walls, the sharp margins were trimmed, rounded and any foreign bodies if present were thoroughly removed. The detached gingival margins were also scraped with the

help of sharp instrument like Bared Parker knife No=11. The whole above-mentioned procedure

created free bleeding from all the dry areas of the bony socket as well from gingival margins. The gingival margins were meticulously sutured to protect the clot formation.

The desired medications as well as precautions were thoroughly explained to the patient.

The patient was instructed to report next day for further observations. It was almost always that the patient was not only without pain, but was also comfortable both physically as well as psychologically from the very next day.

From the last more than forty years the senior author as well as his colleagues and post graduate students had been managing the patients with dry socket surgically with most satisfying results without any complications so far. The review of literature pertaining to management of dry socket has failed to find any reference of surgical treatment of dry socket.

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