Case Reports in Odontology

ISSN:2410-0412

Journal homepage:
www.casereportsinodontology.org

A Delayed Complication of a Dry Socket Treatment: A Rare Case Report

[PP: **06-09]**

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ARTICLE INFO

The paper received on: **02/11/2015**
Accepted after review on: **27/12/2015**
Published on: **30/12/2015**

ABSTRACT

Alveolar osteitis is a well-known complication which occurs after tooth extraction. It is commonly known as Dry Socket. Herewith we present a case of an intra-alveolar dressing (zinc-oxide eugenol paste) for dry socket that mimicked a trigeminal neuralgia for one year and led to chronic osteomyelitis and foreign body reaction. This complication was successfully managed by complete removal of the foreign body and curettage of the affected area

Keywords: *Alveolar osteitis, Dry Socket,alveolalgia, zinc-oxide eugenol paste*

Cite this article as:
Israr Ul Khaliq, M., Syed, W., Shah, A. & Abdul Lafief. (2015). A Delayed Complication of a Dry Socket Treatment: A Rare Case Report. *Case Reports in Odontology 2(2)*, 06-*09*. Retrieved from www.casereportsinodontology.org

1. Introduction

Dry socket (DS) is the most common postoperative complication after tooth extraction, with an onset at 2 to 4 days after surgery [1]. It was first described by Crawford in 1896. [2]. The dry appearance of the socket after the loss of the blood clot and debris resulted in the condition being named dry socket. It is also referred to as alveolar osteitis, alveolitis, localized osteitis, localized alveolar osteitis, fibrinolytic alveolitis, septic socket, necrotic socket, alveolagia[3].The treatment of DS has commonly been categorized into two groups: the non-dressing and the dressing interventions. The use of dressing intervention lacks scientific literature support as available literature shows no scientific studies that have been carried out that specifically investigate the incidence of potential side effects and tissue damage arising from their placement as intra-socket medicament [1]. Dressings containing antimicrobials, obtundants and local anesthetics as active ingredients have all been used. [4]. The most frequently used

one such dressing is a semisolid mixture of Zinc-oxide eugenol (ZOE).[5] Local complications have been reported after the placement of intra-alveolar dressings like burning sensation, neuritis [6] and foreign body reactions [7, 8]. This paper presents a case of a rare complication related to a DS dressing that mimicked a trigeminal neuralgia during one year and caused chronic osteomyelitis with foreign body reaction.

2. Case Report

A 25-year-old female was referred to our oral and maxillofacial surgery department as a case of right trigeminal neuralgia. The patient has a history of conservative treatment for neuralgia with no success. History revealed that the right mandibular first molar was extracted before a year. A DS was diagnosed four days after the extraction by her dentist diagnosed and an intra-alveolar dressing containing ZOE paste was given. With the subsequent relief of pain, the patient did not visit her dentist, and the dressing remained in the socket. But weeks later, the patient again experienced a right mandibular pain. The patient then went to different dentists to treat her pain. The hemifacial pain persisted, and the patient was finally referred to a neurologist. He misdiagnosed it as a trigeminal neuralgia. Carbamazepine was prescribed for about six months without much benefit; later the neurologist referred the patient to our department. The patient reported intermittent right hemifacial pain, which was described as a discomfort with periods of intense shooting pain as her chief complaint. Physical examination revealed no trigger zones. A slight swelling on right side of the face (Figure 1a) was apparent on examination. A periapical radiograph was taken and a radiopaque foreign body was found in the region of alveolar bone of the right mandibular third molar (Figure 1b). The foreign body was removed and curettage of the affected area was done (Figure 2a, 2b). Antibiotics and nonsteroidal anti-inflammatory drugs were administered for one week after the surgery. The removed tissues. All tissues were sent to the pathologist. The histological reported showed a well-vascularized fibrous connective tissue with chronic inflammatory infiltrate and multinucleated giant cells. The necrotic bone was seen surrounded by bacterial forms. The final diagnosis was a chronic osteomyelitis with zones of foreign body reaction. The patient is on follow-up for six months with no facial pain during this period.

3. Discussion

The complications that arise with the use of intra-alveolar dressings are often ignored. [4]. Delayed wound healing and an increase in infection of socket after packing it with dressings was proposed by Turner. Removal of sutures and warm saline irrigation under local anaesthetic prior to the application of ZOE dressing was suggested by Fazakerley and Field. They also suggested that the pack be changed every 2-3 days until the pain subsides after which its use should be discontinued [9]. Zuniga and Leist reported a topical tetracycline-induced neuritis six months after routine removal of an unerupted mandibular third molar [6]. Moore and Brekke reported a foreign-body giant cell reaction related to placement of tetracycline-treated polylactic acid [7]. Mainous reported foreign body reaction after ZOE packing in localized osteitis [8]. In a short-term study for one week to prevent DS Bloomer were to report complications seen in a long-term evaluation [10]. The use of eugenol as an endodontic medication followed by transient paresthesias have also been reported [11].

Iodoform gauze with a few drops of eugenol has also been used as a intra-alveolar bone dressing. However, it must not be used in patients allergic to iodine. [12].

The presented case, illustrates the complications with use of intra-alveolar zinc-oxide eugenol medication. The missed socket dressing used in DS caused bone necrosis, foreign body reaction, delayed alveolar healing, and hemifacial pain.The pain was subsequently confused with a trigeminal neuralgia. Eugenol probably caused a neurotoxic effect in the affected area. Symptoms of the patient confused neurologist, misleading to the wrong diagnosis of trigeminal neuralgia. This case reveals the necessity to do more long-term scientific investigations about the usage of intra-alveolar dressings in treatment of DS in order to determine the safety of their use and their potential side effects.

4. Conclusion

The occurrence of dry socket is unavoidable. It can be prevented by copious use of irrigation, judicious use of antibiotics and proper maintenance of oral hygiene. Although there is no specific treatment available for DS but when eugenol dressings and other non-bioresorbable dressing are used then a written postoperative instructions should be given to the patient with a clear statement about the intra-alveolar socket dressing, the required duration of its stay in the socket and the when it should be removed. A reminder in the form of an SMS or e-mail could also be helpful for the patient.

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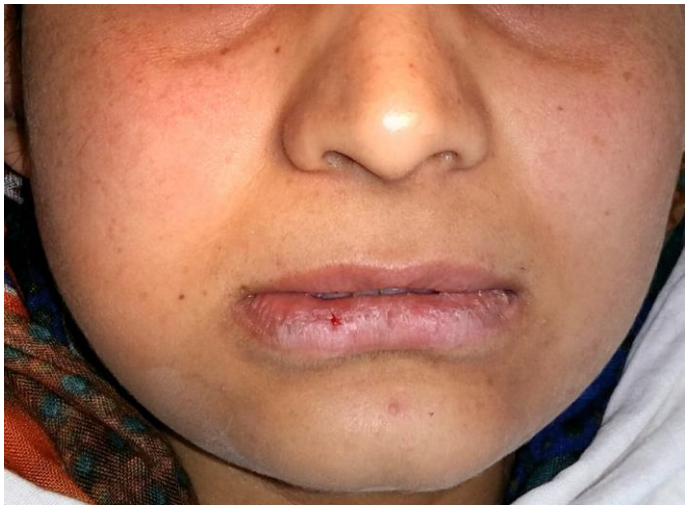

Figure 1a: swelling on right side of face.

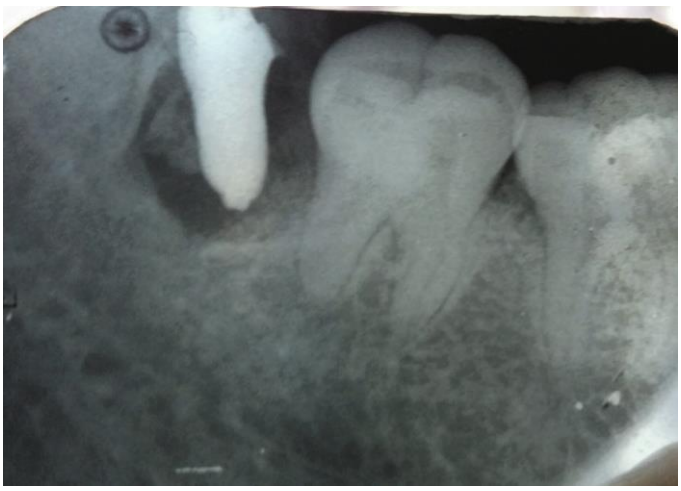

Figure 1b:A periapical X-rays shows,a radiopaque foreign body in the region of alveolar bone of the right mandibular third molar

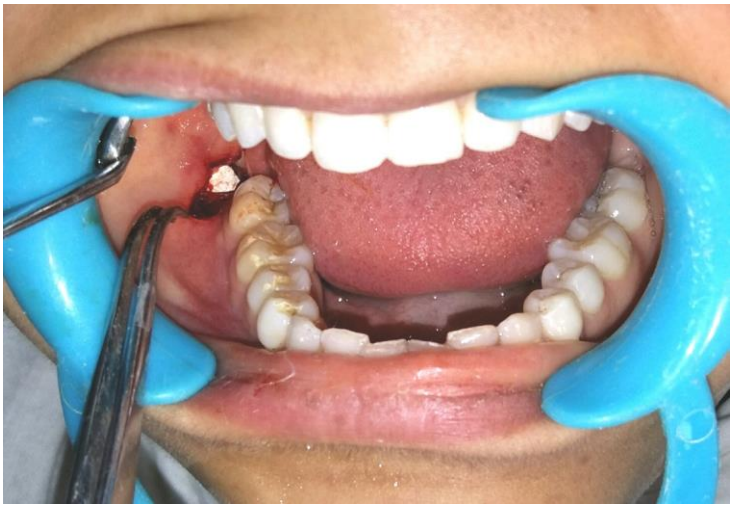

Figure 2a: The foreign body was removed and curettage of the affected area was done

Figure 2b: The foreign body removed (zinc-oxide eugenol paste)