CASE REPORT
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DELAYED ONSET INFECTION (A CASE REPORT)

Dentistry

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ABSTRACT

Transalveolar extraction of impacted wisdom teeth is one of the most common surgical procedure in oral surgery department. The most common complications after surgery are alveolitis and surgical site infection. In most of the patients inflammatory complications are there until the point of suture removal. Among patients considered to have made a full recovery, postprocedural complications may occur weeks later and delayed onset infection (DOI) is one of them. Although it is a rare complication of wisdom tooth extractions but it can result in severe physical and emotional burdens. The onset of delayed infection could be a greater problem in terms of medicolegal problem because this complication arises in a period in which a patient believes the healing is completed. Therefore, surgeons should inform patients of the possibility of a DOI, which is most likely to appear approximately 4 weeks after surgery.

KEYWORDS

We present a case of Delayed onset infection (DOI) that occurred 1 month after suture removal.

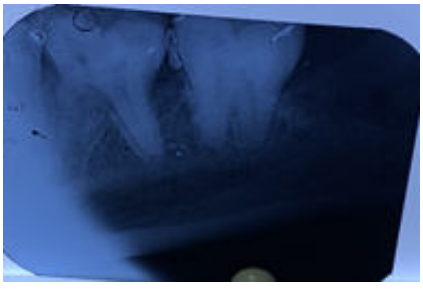
A 19 years old male patient reported to the department with swelling associated with pain and trismus on the left side of lower face after weeks of extraction. On intraoral examination there was pus discharge from the distal side of 2nd molar. Surgical removal of impacted left mandibular third molar (orthodontic reasons) was done 5 weeks ago under aseptic conditions and patient was prescribed Augmentin 625 mg (amoxicillin 500mg + clavulanate 125mg)for 3 days.

The sutures of the patient were removed on the 7th day after surgery. The healing was found to be satisfactory at the time of suture removal with no swelling, discharge or trismus.

IOPA of the surgical site was taken to check for any root remnants and the socket was found clear on IOPA. The patient was again prescribed antibiotics (Augmentin 625 mg + metrogyl 400mg) for 7 days and thorough irrigation of the site with betadine was done. On the 2nd day after irrigation and antibiotics there was improvement in mouth opening and the pain and swelling also subsided.

Preop OPG

5 weeks post op with swelling on left lower face



Post op IOPA showing no root fragments

DISCUSSION

In oral surgery wisdom tooth extraction is one of the most commonly performed procedures. Postoperative infection is one of the rare complications occasionally occurs in the mandible, and such infections can involve abscess, pain, fever, swelling, and trismus [1,2].

Delayed-onset infection (DOI) is a rare complication of wisdom tooth extraction, and it occurs ~1–4 weeks after the extraction. Even after taking precautions like prescribing antibiotics and advising patients about the importance of not smoking and maintaining good oral hygiene, DOI is reported with incidence of 0.5% to 1.8% [3,4,5,6]. DOI can result in severe physical and emotional burdens for the patient and can be a greater problem in terms of a medicolegal issue as this complication arises in a period in which a patient believes the healing is completed and could disappoint him/her more.

The most common age of onset for a DOI is the teens to early twenties [7,8]. A study by Osborn et al referred to delayed onset complications as secondary infections and found that most secondary infections occurred in a group of patients between 12 and 24 years of age [8].

The occurrence of DOI has been described as most frequent at 1 month post extraction [5,9,10,11]

Due to increase in frequency of prophylactic procedures, mean age of patients undergoing third molar extraction is decreasing. By the age of 20 years third molar development is incomplete because teeth tend to attain their final positions later in life. Third molars are located deeper during early development, and retromolar space increases at an older age (>20 years). Third molar removal during this period adversely affect the wound healing and cleaning of the wound becomes more complicated. Because of the anatomic position, oral hygiene measures

for that area are not sufficiently effective. It has been observed that this does not pose problems during the early postoperative period but may be a causative factor of delayed infections [3,7,10,12,13].

In a study done by Kaposvari in 2021 the authors found that lower third molars with total soft tissue retention, lack of distal space, and mesioangular tilt were more likely to develop DOIs. They also said that less mature tooth germs with lower Nolla stages were at higher risk of developing DOIs [7].

Food impaction was suggested to be a risk factor for DOI[4,6] after initial wound healing. Waite & Cherala stated that it might be, the "one-way valve effect that allows food debris to enter the socket but not easily escape", and this condition results in a greater likelihood of socket infection [14].

The treatment for DOI is not well-defined. Fusobacterium, Prevotella, Bacteroides, and Peptostreptococcus have been identified as causative organisms in DOIs. An oral antibiotic is commonly administered and clindamycin has been found to be most effective, followed by metronidazole and amoxicillin/clavulanate. Amoxicillin alone is not sufficiently effective for Fusobacterium or Prevotella [12]. When antibiotic treatment is not successful, surgical debridement of the extraction site is recommended[13]. Removal of the granulation tissue from the socket, debridement of bone particles, and removal of any foreign matter are thought to be essential for DOI treatment[13].

It is therefore important to inform patients about the possibility of a DOI occurring several weeks after their extractions.

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