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Case Study

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ACTINOMYCOTIC DISCHARGING SINUS OF THE ORAL CAVITY IN UNCONTROLLED TYPE 2 DIABETES IN GINGIVA; A RARE MANIFESTATION

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ABSTRACT

Due to the rising incidence of diabetes mellitus common focus areas for diabetes control are blood glucose levels, diet, and exercise. Patients with uncontrolled blood sugar are considered immunosuppressed due to the deleterious effects of elevated blood sugars on the immune system. Actinomycosis is saprophytic infectious agent that causes suppurative lesions with formation of noncaseous granuloma. Although cervicofacial actinomycosis is known to be the most common type, intraorally and periodontally types occur rarely in a localized fashion.

This case reports presents a actinomycotic lesion which was limited to the gingiva and had draining sinus in a middle age adult with uncontrolled diabetes. The patient responded to sestive antibiotics (Amoxicilline and claulanate 1gm twice daily) 4 weeks with root canal treatment and performed with oral hygiene reinforcement and periodontal debridement procedures and control of diabetes.Complete improvement of the lesion was observed after 4 weeks.Therefore in immune suppressed patients the early consideration of opportunistic infection like actinomycotic should be considered and managed accordingly.

KEYWORDS: Actinomycosis, draining sinus, intraoral lesions, diabetes mellitus.

INTRODUCTION

Actinomycosis is a slowly progressing infection caused by anaerobic or microaerophilic, gram-positive, non–spore-forming, non–acid-fast bacteria of the genus Actinomyces Actinomycesspecies are classified as anaerob, gram(+) and flamentous bacteria despite their fungal andbacterial characteristics.[1] Approximately 60% of actinomycotic infections in humanare cervicofacial[2] The species most frequently isolated is Actinomyces israelii.The chronic hyperglycemia of poorly controlled diabetes mellitus induces events that promote structural changes in various tissues and are associated with problems in wound healing and a greater susceptibility to infections.[3,5] Actinomycosis mimics different diseases and exhibits different symptoms, a fact that makes its diagnosis difficult. Most commonly, it presents as a slowly progressive, indolent, indurated infiltration with multiple abscesses, fistulas, and sinuses.[6]

CASE REPORT

A 50 year old diabetic man came to our clinic with complain of painful lesion with draining pus in upper left front tooth with bad taste and bad smell from mouth.

On intra oral examination there were, poor oral hygiene, gross accumulation of dental plaque, calculus,and desquamating lesion with draining sinus in relation to left upper anterior teeth and maxillary region. tooth (figure 1).The tooth was not mobile &there was a negative response to heat test and to electric pulp testing. On radiographic examination, a radiolucency was seen in relation to tooth #11 and #12 involving the apex of both teeth. Periapical radiograph did not show any bony involvement (figure 2).

Figure 1.

Figure 2.

Provisional diagnosis of a necrotic pulp with chronic periradicular periodontitis was made. At the same appointment oral hygiene reinforcement and periodontal debridement procedures were done. Root canal treatment was initiated. After rubber dam isolation access cavity was prepared,necrotic pulp tissue was extirpated and working length was determined. The canal was instrumented with size 15–80 K‐files using a step‐back technique. During the instrumentation, the canal was irrigated copiously with 2.5% NaOCl solution using a 27‐gauge endodontic needle after each instrument followed by normal saline. The canal was then dried with sterile paper points and filled with metapex paste, and the access cavity was sealed.

On further evaluation, his blood reports were HbA1c 9.4 %, Hb 12.5gm/dl, mild leucocytosis with predominance of neutrophills. General physician was consulted and oral hypoglycemics (Tab Teneligliptin +Metformin 20/1gm twice daily) were started and daily self blood sugar monitoring was advised.Complete drainage and debridement of abscess was done and pus culture was send for histopathological examination. Patient was started on empirical antibiotics Tab metrogyl 500 mg thrice daily and Tab ciprofloxacin 500 mg twice daily with oral analgesics and seratiopeptidases.

After 7 days patient becomes euglycemic but not responded to above antibiotics and purulent discharge was still present. Pus culture showed growth of A. Israelii in anerobic culture media, sensitive to amoxicilline, meropenem, and other B lactams. Again complete drainage was done, The intracanal medicament was removed, the canal was irrigated copiously with 2.5% NaOCl solution followed by normal saline, and then final irrigation was done with 2% Chlorhexidine. The toothwere then obturated with gutta percha and zinc oxide eugenol sealer using lateral condensation technique. root canal treatment was completed with permanent restoration in respect to 12. Antibiotic was changed to Moxifloxacin and clavulanate 1gm twice daily and other supportive medications for 1 week.

After 7 days leucocytes became normal. On intraoral examination sinus was closed and lesion started healing. Antibiotic was continued for 3 week more and lesion was completely healed(figure 3&4).

Figure 3.

Figure 4.

DISCUSSION

Actinomycesspecies are saprophytic bacteria of the oral cavity and gastrointestinal tract. The bacteria ex-hibit a low degree of virulence and are commonlyfound in the saliva and in dental plaque. However, un-der certain circumstances that compromise anatomicbarriers and host susceptibility, their pathogenicform can cause actinomycosis.[7,8] In addition to precarious oral hygiene, the presentpatient had diabetes mellitus. It is believed that thehigh concentration of glucose in the wound fluid of pa-tients with diabetes is the main reason for the increased bacterial growth seen in these patients.[9]

Although the oral mucosa is often the penetration site of the Actinomycesspecies into the deeper tissues, actinomycosis in oral mucosal membranes is extremely rare and may mimic other lesions due to its lack of distinctive clinical features (6,12). As a part of the oral mucosal membranes, gingiva may be considered as an entrance forthis microorganism. Further, actinomycetes may also become pathologic due to periodontal disease.

In present case predisposing factor was uncontrolled diabetes. In addition, the presence of poor oral hygiene and periodontitis might have facilitated the penetration and pathogenity ofthe microorganisms.

infections such as tuberculosis and syphilis, butdesquamation of gingiva in actinomycosis and likewise forour case is uncommonly encountered in dental practice. However, the initial history and diseased nature of theregion suggests that periodontitis may have promoted itsclinical appearance.

Actinomycosis cases limited to periodontal tissues arenot common in the dental literature. In a recent report, Nagler et al.[11] presented a case limited to the leftmandibular molar region representing a juvenileperiodontitis-like lesion and emphasized the importanceof early and differential diagnosis of actinomycosis by thedental profession In conclusion, the diagnosis of infection withActi-nomycesspecies in oral tissues represents a challengebecause of the variable clinical manifestations of thedisease. However, health care professionals shouldbe aware of the presence of ulcerative, destructive.

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