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Management of Cutaneous Sinus Tract Caused by Endodontic Infection: A Case Report

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ABSTRACT

A cutaneous dental sinus tract drains pus from a dental source to the face or neck. A misdiagnosis of these lesions can lead to ineffective and inappropriate treatment. Establishing early diagnosis and prompt treatment may significantly reduce patient discomfort. Non surgical root canal therapy is the primary treatment option and most of the times it is successful in eliminating signs and symptoms including resolution of the sinus tract. Surgery and extraction are other alternatives. This case report describes successful management of cutaneous sinus tract in chin region associated with non vital mandibular right canine. At 6 mo follow up patient presented without any signs or symptoms with complete healing of sinus with minimal scarring.

Keywords: Endodontic treatment, sinus tract, chronic periapical abscess.

INTRODUCTION

The odontogenic cutaneous sinus tract on the facial and cervical skin is known manifestation of dental pulp necrosis and chronic periapical periodontitis (1, 2).Cutaneous sinus tract should be carefully evaluated and odontogenic cause should be investigated as they are often misdiagnosed and confused with traumatic injuries, furuncles, bacterial infections, carcinomas, osteomyelitis, pyogenic granulomas, foreign objects and congenital fistula (3). Absence of tooth pain and sound non vital teeth further complicates its diagnosis.

Most of the cases of cutaneous sinus tract reported is seen in association with mandibular teeth with submental and chin region being the most commonly affected site (4).

Treatment of extra oral odontogenic sinus tracts includes non-surgical endodontic therapy which is very effective and successful. Surgery or extraction may also be undertaken depending on the signs and symptoms (5).

CASE REPORT

A 46 years old female reported to department of conservative dentistry and endodontics with a chief complaint of pus discharge from lower side of chin since six months. The opening of sinus tract was traced with gutta percha point and intra oral peripaical radiograph was taken. A periapical radiograph showed a periapical radiolucent area associated with the right mandibular canine with gutta percha point at its apex. Pulp vitality was done which confirmed our diagnosis of chronic periapical abscess. Non surgical endodontic therapy was then planned.

Access cavity was prepared under rubber dam isolation after administration of 2% lignocaine hydrochloride with epinephrine 1:80,000 (ICPA Health Products Ltd, Ankleshwar, India). Canal orifices were identified and enlarged using Gates Glidden drills (Mani Inc, Utsunomiya, Tochigi, Japan) or Sx ProTaper Universal rotary (Dentsply Maillefer). Working length was determined using stainless steel k-files (Mani, Inc.) keeping 0.5 to 1.0 mm short of the apex using a RootZX apex locator (J. Morita, Irvine, CA) and confirmed radiographically. Apical enlargement was done depending on the file that bound at the apex after coronal preparation. Canals were finally irrigated with 5 mL 2.5% NaOCl, Calcium hydroxide medicament was placed and access cavity was restored with Ketac Molar as an intermediate restoration. At the second visit, obturation was done with gutta-percha (Meta Biomed Co. Ltd, Cheongwon- gun, Chungbuk, Korea) and zinc

oxide eugenol sealer (Dental products of India Ltd, New Delhi, India) using cold lateral condensation technique and restored with composite resin with a base of glass- ionomer cement (Ketac Molar). Patient on recall visit after six months reported complete absence of any signs or symptoms (Fig 1).

Fig 1: Preoperative (A) and 6 mo Postoperative clinical photograph (B) Preoperative (C) and 6 mo Postoperative Radiographs (D)

DISCUSSION

We have reported successfull management of extra oral sinus with associated with chronic apical periodontitis with non surgical endodontic therapy. The most common cause of cutaneous sinus tract is chronic periapical abscess. Despite numerous reports of its incidence in literature they continue to be a challenging diagnosis (6). Patient in want of correct diagnosis undergo various invasive treatment with little benefit. To avoid misdiagnosis careful clinical examination should be done and detailed history should be taken. Pulp vitality should be done to establish odontogenic cause. Radiopaque tracer like gutta percha point should be routinely used to trace its origin. Antibiotic therapy should be avoided when diagnosis is established as it is an localized entity (7). In our case report non surgical endodontic treatment was performed without systemic antibiotic administration.

Differential diagnosis include pustule, neoplasm, local skin infections (carbuncle and infected epidermoid cyst), pyogenic granuloma, chronic tuberculosis, and gumma of tertiary syphilis (4).Root-canal therapy is the treatment of choice. Extraction may be indicated for non-restorable teeth. Once the primary odontogenic etiology has been properly eliminated or removed, the sinus tract and cutaneous lesion usually resolve within a few weeks without treatment.

Non surgical treatment was done in this case as affected tooth was sound and restorable. Calcium hydroxide was utilized as intracanal medicament because of its chief advantages of stimulation of bone repair and bactericidal effect due to its high alkalinity (8). Obturation was done after 15 days since initiation of treatment. On six month follow up visit patient reported with complete healing of sinus tract without any visible scarring as well as radiographic resolution of periapical radiolucency.

CONCLUSION

Early diagnosis and treatment greatly reduces patient discomfort and mitigates chances of esthetic compromise. Non surgical therapy is highly effective treatment strategy in management of cutaneous sinus tract associated with odontogenic infection.

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