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CASE REPORT

Management of Extra Oral Sinus of Dental Origin: A Case Report

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ABSTRACT:

Extra oral sinus of odontogenic origin is rare but are well documented in medical literature. Such lesions are generally misdiagnosed with other cutaneous lesion and the mismanagement might lead to persistence of the disease. Therefore the successful treatment of the extraoral sinus tract depends on proper diagnosis. As the present case report was diagnosed as the cutaneous sinus tract of dental origin, it was well managed by non-surgical root canal treatment.

Key words: Extra oral sinus, Root canal treatment, cutaneous sinus

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INTRODUCTION

Sinus tract is defined as the tract that is lined with granulation tissue leading from the periapical area of inflammation to the epithelial surface (1). Extra oral sinus tract of odontogenic origin is mainly caused by chronic periradicular abscess. Bacterial invasion, chemical irritation or trauma lead to these abscesses (2). 80 percent of the cases are present in mandibular teeth with most commonly involving chin and submental region (3,4). Clinically it can be presented as a nodule, ulcer, or an infected cyst on the skin (5). Cutaneous sinus tract are diagnosed late as they are mostly misdiagnosed as the cutaneous lesion of non-odontogenic origin like epidermoid or thyroglossal cysts, actinomycosis pyogenic granuloma, congenital fistula, deep mycotic infection, furuncle, and salivary gland fistula (6). The patient might seek treatment from the physician and is referred late to the dentist (7). Management of extra oral sinus tract of dental origin is by root canal treatment that can be multiple visit or single visit (7). The present case report aimed to treat

the extra oral sinus tract with respect to left mandibular central incisor root canal treatment.

CASE REPORT

A 14-year-old female patient reported to the department of conservative dentistry and endodontics post graduate institute of dental sciences, Rohtak, Haryana with the chief complaint of pus discharging from the chin from 15 days. Complete medical, dental history was taken. Dental history revealed the incident of trauma 6 months back. Periapical radiographs (PA) was taken with tracing the extra oral sinus with 25 no. gutta percha [Fig1 (A, B)]. PA radiograph revealed periapical lesion of left mandibular central incisor [Fig1(A)]. On clinical examination tooth showed negative response to electric pulp test and cold test. Clinically sinus tract was appreciated on the chin with the pus discharge [Fig1(A)]. Root canal treatment was planned. Local anesthesia was achieved with 2% lignocaine hydrochloride with epinephrine 1:80,000 (ICPA Health Products Ltd, Ankleshwar, India). Access opening was

done with the round bur. Working length was achieved and biomechanical preparation was done according to standard protocol [Fig1(C)]. Intra canal calcium hydroxide dressing was given for 2 weeks. After 2 weeks the canals were dried and obturated with gutta percha with lateral condensation techniques [Fig1(D)]. Follow up of the patient was done. The extra oral sinus was completely healed clinically and radiographically within 6 months with no clinical signs and symptoms [Fig1(E), (F)].

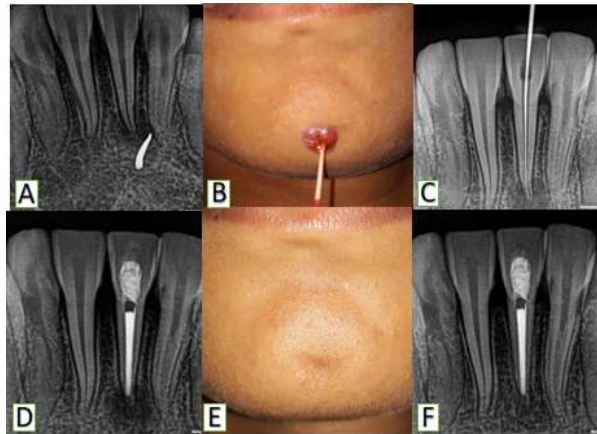


Fig 1 (A) (B)Pre-operative radiograph and clinical photograph showing extra oral sinus being traced with gutta percha (C) working length determination (D) post obturation radiograph (E) Follow up at 6 months with healed extra oral sinus. (F) Radiograph at 6 months follow up.

DISCUSSION

In Chronic suppurative infection of tooth the purulent exudate travels the path of least resistance and once the cortical plate is penetrated the drainage can occur through the sinus intraorally or extra orally(7). Extra oral sinus of the dental origin are frequently misdiagnosed as the lesions of nonodontogenic origin (6). So the evaluation must begin with thorough history, clinical examination and awareness about the differential diagnosis of cutaneous sinus tract which include actinomycosis (3,8,9), osteomyelitis (3,10), orocutaneous fistula , pustule (11), neoplasms, local skin infections (carbuncle and infected epidermoid cyst), pyogenic granuloma, chronic tuberculosis, and gumma of tertiary syphilis (12). Clinically it may present as erythematous symmetrical lesion with crusting (2). In the present case patient had the history of trauma 6 months ago. The pulp sensibility testing was negative for left mandibular central incisor and on tracing the sinus with 25 no. gutta percha it was diagnosed to the extra oral sinus tract of odontogenic origin. The management of extra oral sinus tract of dental origin is non-surgical root canal treatment when

the tooth is restorable (3,4,13). If the tooth is non restorable then extraction is indicated (13). Other treatment options may include excision of the lesion and sinus (14). In some cases cosmetic treatment may be required if healing results in cutaneous dimpling and scar formation(3,8,9,13). In our case as the tooth was restorable, non-surgical root canal treatment was performed according to standard protocol. Post operatively antibiotic were not prescribed as in cutaneous lesion the antibiotic may be misleading as the drainage is stopped temporarily (15). Follow up of the patient was done regularly to check for healing and clinical or radiographic signs and symptoms. At the follow up of 6 months complete healing was observed both clinically and radiographically.

CONCLUSION

Extra oral sinus may be caused by both odontogenic and non-odontogenic infection. For the successful healing of the sinus thorough history and accurate diagnosis is required.

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