

CASE REPORT

NONSURGICAL ENDODONTIC MANAGEMENT OF CUTANEOUSLY DRAINING ODONTOGENIC SINUS

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Odontogenic cutaneous sinus tract is a rare but well documented condition. It is usually misdiagnosed as a local skin lesion and maltreated by systemic antibiotics and/ or surgical excision with eventual recurrence. This is because the primary etiology is incorrectly determined. We came across a 38 year old patient who presented with a cutaneous lesion on her left cheek with frequent purulent discharge and was not responding to systemic antibiotics. The case history, diagnosis and management of this condition is presented here.

Key words: Nonsurgical endodontic therapy, odontogenic, cutaneous sinus

INTRODUCTION

Cutaneous sinus tract of dental origin is a rare entity.¹ It is well documented in medical, dental and dermatological literature. As the lesion develops it is usually disregarded to be of dental origin, patient seeks treatment from a dermatologist or general surgeon and often undergo multiple antibiotic regimens, surgical excisions, biopsies and even radiotherapy.² Misdiagnosis adds to the chronicity of the lesion and has profound effect on facial esthetics due to unnecessary treatment resulting in cutaneous scarring and dimpling.

The cutaneous sinus tract usually arises as sequel of bacterial invasion of the dental pulp through a breach in the dentinal shell by a carious lesion or trauma.³ If treatment is not initiated at this stage the pulp gets necrotic and infection spreads beyond the confines of the tooth into the periradicular area resulting in apical periodontitis. The inflammatory and immunological processes then induce bone resorption, resulting in the formation of an intraoral or cutaneous sinus. Once diagnosed the treatment is simple and effective, consisting of removal of infected pulp tissue and filling of the root canal with biocompatible material resulting in minimal scarring of skin.

CASE REPORT

A 38 year old lady reported to operative dentistry department, Armed Forces Institute of Dentistry, Rawalpindi with six months history of draining cutaneous lesion on her left cheek associated with intermittent pain. Past dental history revealed extraction of left maxillary first molar a year back, with persistence of mild symptoms. Extra oral clinical examination showed cutaneous lesion on left cheek, 4mm in diameter approximately 2.5 cm below the infra orbital margin (Fig -1a).

The opening of the lesion was crusted with minimal swelling. Palpation elicited a purulent

discharge and fixation of the lesion to underlying bone. Intraorally there was no swelling. Tooth #26 was missing. Tooth #25 was carious, it was tender to percussion and adjacent alveolar mucosa was tender on palpation. There was no detectable mobility of tooth # 25 and periodontal probing depths were within normal range.



Fig-1 a & b: Pre operative

The periapical radiograph showed carious tooth # 25 with periapical radiolucency and hypercementosis at the apical third of root (Fig-1b). Tooth # 25 was unresponsive to thermal and electric pulp vitality tests, whereas rest of the adjacent teeth responded normally.

A diagnosis of chronic suppurative periapical periodontitis with cutaneous sinus

associated with tooth # 25 was made. Treatment consisted of cutaneous drainage with nonsurgical endodontic therapy. No systemic antibiotics were advised. The lesion healed within a month of this treatment (Fig-2a). Six months recall periapical radiograph showed signs of healing of periapical lesion (Fig-2b).



Fig-2-a & b: Post operative

DISCUSSION

The cutaneous sinus tract of dental origin is an uncommon but well documented condition. Winstock in 1959 associated cutaneous lesions with dental infections.⁵ Kaban in 1980 elaborated the path of spread of chronic dental infections.⁶ Approximately 80% of the reported cases are associated with mandibular teeth and 20% with maxillary teeth.² Most commonly involved areas are the chin and submental region. The other uncommon locations are cheek, canine space, nasolabial fold, nostrils and inner canthus of eye.¹

The characteristic lesion is erythematous, smooth, symmetrical nodule, 1-20 mm in diameter. There is periodic drainage and crusting in some cases and the lesion is depressed below the normal skin

surface. A cord – like tract can be felt attached to the underlying bone.²

Histopathologically the lesion is a chronic abscess and tract is characterized as fragments of granulation tissue focally lined by stratified squamous epithelium.⁷

In order to make a correct diagnosis the clinician must be aware of the fact that any cutaneous lesion of the face and neck can be of dental origin. A thorough history may reveal a previous dental problem but patient may not remember any history of acute or painful onset. Key points for extraoral clinical examination are the gross appearance of the lesion and palpation of cord –like tract attached to the underlying bone. Intraoral examination may reveal carious or discolored teeth and tenderness of involved teeth and adjacent alveolar mucosa. Tentative diagnosis is based on history and clinical examination which is further augmented by investigations comprising of periapical radiographs and pulp vitality tests. Involved teeth respond negatively to pulp vitality tests. Periapical radiograph taken by a gutta percha point inserted in the sinus is helpful in tracking the origin of the lesion.

Differential diagnoses include pustule, actinomycosis, orocutaneous fistula, thyroglossal duct cyst, salivary gland fistula, chronic tuberculosis, gumma of tertiary syphilis, suppurative lymphadenitis and malignancy. Nonsurgical endodontics therapy is the treatment of choice if tooth is restorable and otherwise extraction should be considered.⁷ Calcium hydroxide is the preferred intracanal medicament. No systemic antibiotics are required as the lesion is a localized entity. Most authors believe that once the primary cause is removed i.e by endodontic therapy, the cutaneous lesion heals without treatment. Plastic surgical repair may be needed at a later stage if healing results in cutaneous retraction.

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