

Management of Cutaneous Sinus of Dental Origin – A Case report

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Abstract: Cutaneous draining sinus tract of dental origin is often a diagnostic challenge, because of its uncommon occurrence and absence of dental symptoms. Several non-odontogenic disorders may produce a cutaneous sinus tract. Thus differential diagnosis of this clinical finding is of paramount importance. This article presents a case of facial lesions misdiagnosed as being of nonodontogenic origin. The correct diagnosis in this case was cutaneous sinus tract secondary to pulpal necrosis, suppurative apical periodontitis, and osteomyelitis. Facial sinus tract resolved after the patient received nonsurgical root canal therapy. As patients with cutaneous facial sinus tracts of dental origin often do not have obvious dental symptoms, possible dental etiology may be overlooked. Early correct diagnosis and treatment of these lesions can help prevent unnecessary and ineffective antibiotic therapy or surgical treatment. [Ujaria U et al NJIRM 2013; 4(5) :104-105]

Key Words Cutaneous tract, bacterial invasion, pulpal necrosis, root canal therapy.

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Introduction: Although cutaneous sinus tracts of dental origin have been well documented in the medical and dental literature, these lesions continue to be a challenging diagnosis. The discharge of purulent exudates usually is associated with periapical radiolucent area and goes through tissues and structures along the path of least resistance¹. The site of drainage can be located intraorally or extraorally, depending on certain circumstances such as the tooth which is diseased, the apex position relative to muscular attachments, bacterial virulence and lower host resistance². They eventually appear beneath the surface of the gum, palate, or periorificial skin forming a fistulous opening with an inflamed red nodule at the orifice¹.

The cutaneous sinus tract is a sequel to pathosis and that the clinician should be able to recognize the primary cause. Therefore, taking the patients' history becomes crucial in order to avoid misdiagnosing a wide variety of diseases like ingrow hair, osteomyelitis, local skin infection and neoplasms.

Case description: A 12-year-old girl came with the complaint of a discharging sinus (Fig-1) on lower left side of the face. Six months earlier a swelling had appeared in the mandibular left quadrant. Antibiotics (amoxicillin + clavulanic acid) had been used intermittently, but after treatment with antibiotics and anti-inflammatory agents there had

been significant reduction in the size of the swelling and a cutaneous sinus tract was formed. . On intraoral examination, there was a severely decayed tooth on the same side; radiological survey revealed a periapical infection (Fig-2). Endodontic treatment of mandibular first molar was started. Ca(OH)₂ was used as an intracanal medicament for 7 days. Root canal obturation and permanent restoration of the tooth was done (Fig-3). No systemic antibiotic therapy was provided. The patients responded well, and the cutaneous lesions healed uneventfully (Fig-4).

Figure 1:



Figure 2:



Figure 3:**Figure 4:**

Discussion: The most common cause of cutaneous sinus tract is a chronic periradicular abscess. This abscess may arise from bacterial invasion, chemical irritation or trauma. Most common initiating factor of periradicular abscess is carious exposure and subsequent bacterial invasion of tooth pulp. The inflammatory process begins in a necrotic pulp and spreads into surrounding periodontal ligament and bone. The first pathological change is apical periodontitis. The inflammatory and immunologic process begins bone resorption. The marrow spaces are involved resulting in formation of localized abscess. (suppurative osteitis). The inflammation then spreads peripherally until cortex of bone is destroyed and a subperiosteal abscess forms. Periosteum is pierced next. Then depending on factors like virulence of micro-organisms host resistance and most importantly anatomic position of adjacent muscles and fasciae either a cutaneous sinus or intraoral sinus forms.

Conclusion: Because patients with cutaneous facial sinus tracts of dental origin often do not have obvious dental symptoms, possible dental etiology may be overlooked^{4,5,6}. Evaluation of a cutaneous sinus tract must begin with a thorough history and the awareness that a cutaneous lesion of the face

and neck could be of dental origin. Patients, unaware that the cutaneous sinus could be related to dental infection, often seek treatment from a dermatologist or family physician⁴.

In the medical literature, approximately half the patients with cutaneous sinus tract of dental origin have undergone multiple unsuccessful attempts at incision and drainage, numerous trials of antibiotics^{4,5,6,7} radiation therapy⁵, electrodesiccation⁵, intralesional injection of steroid⁸, oral steroid⁸, and laser therapy⁸. Physicians should remain aware about the unusual presentations of periapical infection³.

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