

치원성 표피 누공과 연관된 만성 창상의 증례보고

정보람 · 김영석 · 홍종원 · 노태석 · 나동균

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A Case Report of Chronic Unhealing Wound Related to Odontogenic Cutaneous Sinus Tract

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Purpose: The odontogenic sinus and fistulous tracts is the most common draining sinus and fistulous tract of the head and neck region. These are often misdiagnoses by clinicians who are not familiar with cutaneous sinus, since most of patients do not have dental symptoms. Here we present two cases of odontogenic cutaneous sinus tract which have been diagnosed after excision of epidermal cyst.

Methods: Two patients who presented with an odontogenic sinus tract draining to the skin at our institution during the two years were enrolled in this study. We reviewed all the medical records of the patients and literature about odontogenic cutaneous sinus tract.

Results: Odontogenic cutaneous sinus tracts of our cases were healed after treatment of periapical odontitis and extraction of the carious tooth.

Conclusion: The cutaneous sinus tract of dental origin is well documented condition. But its diagnosis is not always easy unless the clinicians consider the possibility of its dental origin. An understanding of the pathogenesis of odontogenic cutaneous sinus tract will lead to early correct diagnosis and proper treatment without unnecessary surgery.

Key Words: Odontogenic cutaneous sinus, Epidermal cyst

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I. INTRODUCTION

Odontogenic cutaneous sinus tract is the most common a cutaneous sinus tract about the head and neck region.¹ The periapical dental abscess goes through the surrounding soft tissue and it forms sinus tract to the skin surface.^{2,3} The usual appearance of the cutaneous lesion is a erythematous, symmetrical, smooth, and usually quite soft nodule. The center of the nodule usually shows a small opening from which purulent fluid may be expressed; the opening may be crusted.^{4,5} This can be often misdiagnosed and confused with traumatic injuries, furuncles, bacterial infection, carcinomas, osteomyelitis, pyogenic granulomas, foreign objects and congenital fistula, resulting in treatment failures and recurrences.⁶ Here we present two cases of odontogenic cutaneous sinus tract which have been diagnosed after excision of infected epidermal cyst.

II. CASE

Case 1

A 35-year-old female patient was referred to Plastic Surgery Clinic for a cutaneous cyst on the left lower boarder of mandibular body area that recurred five months after she received diagnositic curettage at a local dermatologic clinic. The pathologic report after excision of the facial lesion revealed a ruptured inflammatory epidermal cyst. Abscess developed on the incision site 23 days after the surgery and was intractable to incision and drainage. Autoimmune disease or immune deficiency disease were suspected. Blood smear, rheumatoid factor, antinuclear antibody immunofluorescence test, thyroid function test were performed, but test result were normal levels. Serial bacterial culture tests from the lesion were also negative. Secondary operation was performed after 2 months later and the pathologic report showed chronic inflammation and granulation with foreign body reactions without evidence of malignant tumor cells or atypical cells. Despite continuous antibiotics therapy and silver antimicrobial dressing application, the lesion did not show any healing. During the third operation, a sinus tract leading to the mandible was found in the surgical site (Fig. 1). MRI T2 weighted image showed



Fig. 1. Persistent draining cutaneous lesion on the left lower boarder of the mandibular body after the secondary operation (Left). Incidental fistular tract was found during the third surgery (Right).

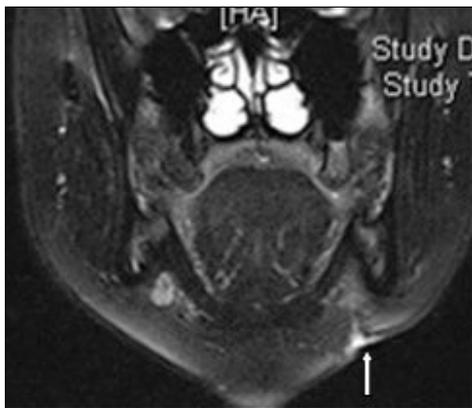


Fig. 2. MRI T2 weighted image, coronal view. The arrow indicates left submandibular area lesion with tract in either the hilum area of the wharton's duct or the alveolar bone.



Fig. 3. The panoramic radiograph. (Above) The periapical radiographs showed left second molar with periapical radiolucency (arrow).

the sinus tract connecting the skin overlying left submandibular area to either the left submandibular gland or molar (Fig. 2). Negative sialogram excluded connection to the submandibular gland. She was referred to Dental clinic. The panoramic radiograph and the periapical radiograph showed radiolucency around the periapical area of the left lower second molar (Fig. 3). The facial lesion was successfully treated after two weeks of extraction of the left lower second molar and periodontal treatment.

Case 2

A 58-year-old male patient was referred to the Plastic Surgery Clinic for surgical excision of a chronic inflammatory mass on the left nasolabial fold area, which recurred continuously despite 2 years of antibiotic (Fig. 4). Punch biopsy by the Dermatology department report was infected epidermal cyst. However, inflammatory drainage recurred, and secondary excision was performed 9 month later. A sinus tract connecting to the oral cavity was found at the time (Fig. 4). Intraoral examination showed poor dental hygiene and

multiple periodontitis (Fig. 5). Panoramic radiograph and periapical radiographs showed radiolucency around the periapical area of the left upper canine root and first premolar (Fig. 6). The nonvital teeth were extracted and periodontal treatment was performed. There was no recurrence during 1 year of follow-up.



Fig. 4. On the left nasolabial fold area, elevated papule with yellowish discharge was noted (Left). A sinus tract connecting to the oral cavity (Right).



Fig. 5. Intraoral physical examination revealed dental caries connected to the sinus tract.

III. DISCUSSION

Odontogenic infection begins in the hard tissues of the tooth, usually secondary to dental caries or the pulpal degeneration secondary to trauma and infection in the supporting periodontal structures.³ As the inflammation proceeds, most lesion become acute and the patient seeks treatment. But in chronic situations the local inflammatory destructive process progresses slowly through the cancellous alveolar bone along the path of least resistance.² Abscess perforates the thin cortical plate and forms a subperiosteal abscess, and once through the periosteum this asymptomatic infection may spread into the surrounding soft tissues. The direction of sinus tract depend on the location of carious tooth root, the length of the root and the gravity, when spread of infection from the apex of the carious tooth root are beyond the maxillary or mandibular muscle attachments, the sinus tracts to the skin is formed.^{3,4}

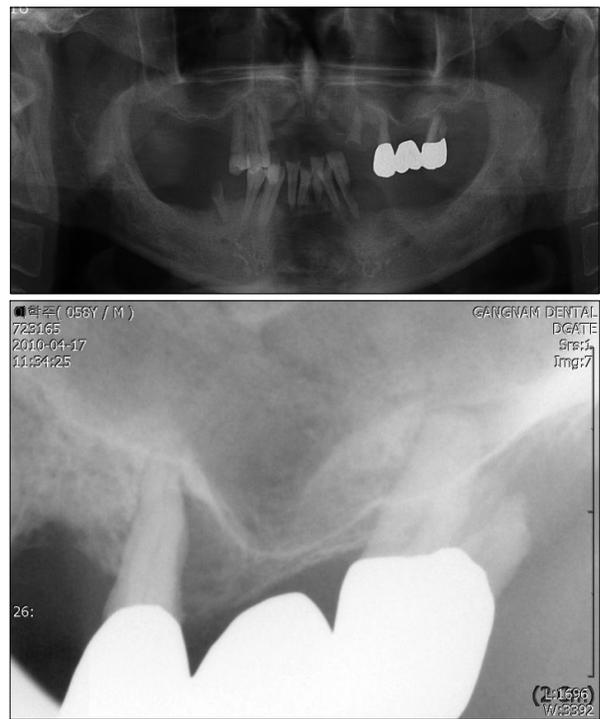


Fig. 6. Panoramic radiograph (Above) and periapical radiographs (Below) showed radiolucency around the periapical area of the left upper canine root and first premolar.

Odontogenic cutaneous sinuses are typically fixed, nontender, erythematous nodulocystic lesions on the skin.⁴ Approximately 80% of the reported cases are associated with mandibular teeth and 20% with maxillary teeth.¹ Most commonly involved areas are the chin and submental region. Other uncommon locations are cheek, canine space, nasolabial fold, nostrils and inner canthus of eye.²

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. But the patients are often unaware of any intraoral problems, and they do not appreciate the relationship of the teeth to the skin lesion.³ For the correct diagnosis of the odontogenic cutaneous sinus tract, evaluation of the patient should begin with a thorough history. The past history of the patient's facial trauma or extensive past dental care should be investigated, facial asymmetry and regional lymphadenopathy should be noted. Lymphadenopathy associated with intraoral abscess involves chiefly the submandibular, submental, and anterior cervical lymph nodes. Evidence of periodontitis, extensive restorations, carious lesions, fractured or discolored teeth, toothmobility, and sensitivity to percussion and thermal stimulation (hot, cold) should be critically analyzed.² Key points for extraoral clinical examination are the gross appearance of the lesion and palpation of cord-like tract attached to the underlying bone.⁷ Panoramic or periapical radiographic views may reveal evidence of radiolucent periapical pathosis (granuloma, radicular cyst, osteomyelitis) and radiopaque masses suggestive of retained tooth fragments, impacted teeth, or foreign objects.¹⁻³ Periapical radiograph taken by a gutta percha point inserted in the sinus is helpful in tracking the origin of the lesion.⁷

Differential diagnoses should include foreign body, pustule, actinomycoisis, orocutaneous fistula, thyroglossal duct cyst, salivary gland fistula, chronic tuberculosis, gumma of tertiary syphilis, suppurative lymphadenitis and malignancy.^{2,7}

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Recurred epidermal cyst, postoperative wound infection, foreign body reaction and autoimmune disease were initially considered as the cause of chronic draining wound in the cases described above, leading to delayed diagnosis and treatment. Since the symptoms of odontogenic cutaneous sinus tracts are nonspecific and often misdiagnosed, it is important to take detailed medical history and consider additional dental examination in cases of chronic draining wound of the face.

REFERENCES

1. Mittal N, Gupta P: Management of extra oral sinus cases: a clinical dilemma. *J Endod* 30: 541, 2004
2. Cioffi GA, Terezhalmly GT, Parlette HL: Cutaneous sinus tract: an odontogenic etiology. *J Am Acad Dermatol* 14: 94, 1986
3. Kaban LB: Draining skin lesions of dental origin: The path of spread of chronic odontogenic infection. *Plast Reconstr Surg* 66: 771, 1980
4. STOLL HL Jr, SOLOMON HA: Cutaneous sinuses of dental origin. *JAMA* 184: 120, 1963
5. WINSTOCK D: Four cases of external facial sinuses of dental origin. *Proc R Soc Med* 52: 749, 1959
6. Held JL, Yunakov MJ, Barber RJ, Grossman ME: Cutaneous sinus of dental origin: a diagnosis requiring clinical and radiologic correlation. *Cutis* 43: 22, 1989
7. Qazi SS, Manzoor MA, Qureshi R, Arjumand B, Hussain SM, Afridi Z: Nonsurgical endodontic management of cutaneously draining odontogenic sinus. *J Ayub Med Coll Abbottabad* 18: 88, 2006