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## SHORT REPORTS

# Chronic Dental Fistule on the Nose

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*Abstract.* A case of chronic dental draining sinus on the dorsum of the nose is reported. The skin lesion, clinically simulating basal cell epithelioma, healed promptly after extraction and eradication of the periapical abscess of the right upper canine. The importance of considering this condition is emphasized in cases of chronic facial granulomatous or ulcerative lesions.

*Key words:* Facial fistula; Dental fistula; Dental sinus; Nose; Periapical abscess

The development of dental sinus tracts usually follows chronic inflammation about a tooth. In some cases a fistula may penetrate through the facial planes between the muscles of the cheek or lip and establish an opening on the outer surface of the skin, instead of on the oral mucosa. The condition may simulate a variety of chronic granulomatous dermatoses or even skin cancer (3, 4). In most cases it develops on the chin or cheek, due to the influence of gravity, tissue density and site of the involved tooth; a review of the Japanese literature revealed that an infectious source in the form of a periapical abscess of a mandibular tooth existed in 46 out of 48 cases (95.6%). However, there have been reports of exceptional cases with drainage to such odd locations as the inner canthus of the eye (5) or side of the nose (3) due to affection of the maxillar teeth.

We have recently seen a patient in whom a sinus tract was formed through the skin of the nose. The infrequent reports in the dermatological literature on the dental sinus itself and the unusual site of the lesion in this patient prompted us to report the present case.

## REPORT OF THE CASE

A 41-year-old Japanese man was referred by a surgeon to the Dermatology Clinic of Kyoto University Hospital for evaluation of a chronic asymptomatic ulcerative lesion on the dorsum of the nose. About 10 months previously he had developed a local swelling on the nose. At that time there had been intermittent drainage of a seropurulent exudate. He had been treated by several physicians with local excision, topical antibiotic ointments and/or with systemic administration of antibiotics, all of which failed to eradicate this condition.

On examination, the patient showed a depressed ulcerated lesion, 3 mm in diameter, just above the right ala nasi (Fig. 1). Clinically the lesion resembled basal cell epithelioma. Routine laboratory findings were all within normal limits. A bacteriological culture of a serous exudate showed a scant growth of non-pathogenic Neisseria S.P. Cultures of tissue fragments for fungi and mycobacterium proved negative. Excisional biopsy revealed a fibrinous necrotic area surrounded by a non-specific mixed cell granulomatous change with an infiltration consisting of neutrophils, lymphohistiocytic cells and plasma cells.

Dental X-ray films showed a radiolucent lesion in the periapical area of the right upper canine and premolars (Fig. 2). Extraction of the involved teeth followed by curettage of granulation tissue about the roots was carried out. A probe could easily be passed from the sinus opening to the extraction socket through the abscess cavity around the apex of the canine tooth (Fig. 3).

*Fig. 1.* Chronic ulcerated lesions on the dorsum of the nose, simulating basal cell epithelioma.

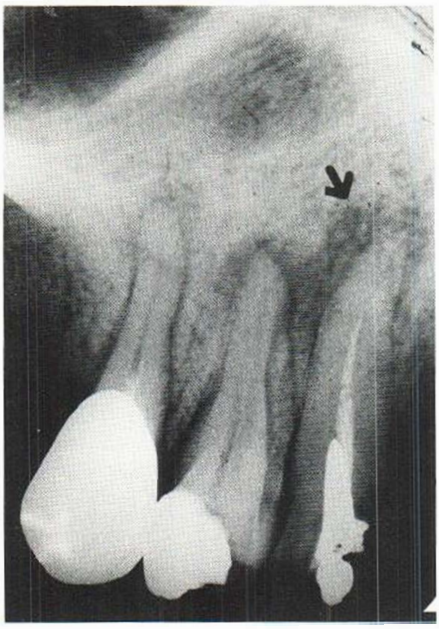

*Fig. 2.* Radiolucent area denoting infection of bone at the roots of the upper right canine (arrow) and premolars.

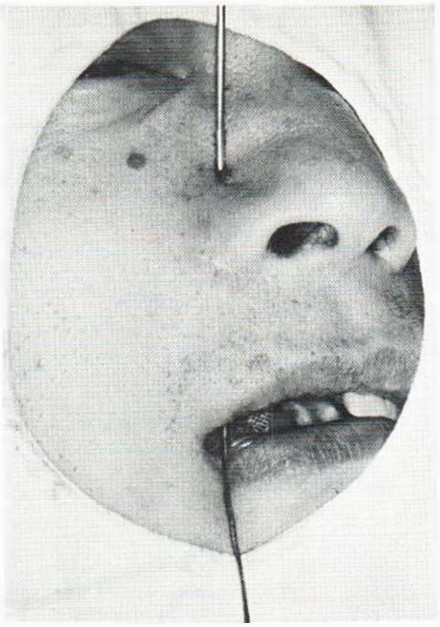

*Fig. 3.* An actual communication demonstrated between the sinus orifice and the dental abscess cavity.

There has been no recurrence of drainage at the sinus opening and the ulcerated lesion healed completely following the extraction of the affected teeth.

## DISCUSSION

The present case indicates how important it is that we should always consider the possibility of a chronic dental fistula when we encounter a granulomatous or ulcerative lesion on the face involving the region below the orbit, even in such an unusual location as the dorsum of the nose. As in many other cases with this condition, the present patient had also been subjected to prolonged and incorrect treatment due to misdiagnosis. At first we entertained the following possibilities: basal cell epithelioma, deep mycoses, foreign body granuloma including ruptured cysts, and tuberculosis. However, all these possibilities were excluded by histopathological and microbiological studies. A careful examination of the dental radiographs because of a suspected diagnosis of dental sinus revealed the periapical involvement of the right upper canine and premolars. Demonstration of an actual communication between the sinus tract and the abscess cavity confirmed this diagnosis.

The location of dental fistula is related to the site of the involved tooth, the density of the bones and soft tissues, the plane of separation, and gravity (1, 2). Therefore one and the same tooth with an infection resulting in a facial fistula can give rise to a variety of possibilities as to the site of the external orifice, in different individuals. In cases of chronic dental abscess involving the upper anterior teeth a sinus usually opens on the labial side of the gingiva or, rarely, into the nasal cavity. The nasal lesion noted in this case is thought to have developed after a series of rather exceptional processes in which a periapical abscess of the canine opened its way through tissue offering weak resistance, up to the dorsum of the nose.

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