



Delwyn Zhi Jie Lim,
medical student; **Hua-Liang Joel Lim, MBBS, MMed**

Lee Kong Chian School of Medicine (Mr. Delwyn) and National Skin Centre (Dr. Hua-Liang), Singapore

joel.lim@mohh.com.sg

DEPARTMENT EDITOR

Richard P. Usatine, MD
University of Texas Health at San Antonio

The authors reported no potential conflict of interest relevant to this article.

Painful jaw lesion

All it took to determine the cause of a growing lesion on this patient's jaw was a look inside of her mouth.

A 48-YEAR-OLD CHINESE WOMAN was referred to our center with a 7-month history of a painful lesion on her left jaw that had been gradually increasing in size. The patient noted occasional purulent and bloody discharge from the lesion. She denied having a toothache.

An examination revealed an erythematous nodule with perilesional puckering super-

rior to the left body of the mandible, measuring 7 × 8 mm, with no discharge or surrounding inflammation (FIGURE 1). There was no cervical lymphadenopathy.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1

Erythematous nodule over patient's left mandible



Diagnosis: Odontogenic sinus tract

Further examination on the inside of the patient's mouth revealed root stumps of the left inferior molars (FIGURE 2). Based on the appearance of the lesion and molar involvement, we diagnosed odontogenic sinus tract (OST). OST, also known as odontogenic fistula or dental sinus, is a clinical diagnosis.

Symptoms such as odontalgia may be present in only 50% of patients with OST; thus, patients often initially consult their physician, rather than their dentist.¹ If OST is suspected, evaluation should begin with a thorough history focusing on any recent facial trauma or past dental diseases. Dental panoramic or periapical radiography can be performed to confirm the extent of dental disease, and pulp vitality testing can determine if a diseased tooth is restorable.

A biopsy of the sinus tract is not required, as it would only reveal granulation tissue. Bimanual palpation of the oral cavity may reveal a cord-like structure from the cutaneous sinus

to the underlying alveolar bone. (This structure was palpated in our patient.)

■ **The pathogenesis of OST** begins with dental caries, which progress to degeneration of the pulp and formation of periapical abscesses and root stumps. Progressive suppuration causes local destruction and subsequent tract formation through the alveolar bone and mandible. The build-up in pressure within this tract results in an eruption through the skin, manifesting as a sinus with extrusion of pus. The most common site of OST is at the angle of the mandible.²

The differential Dx is limited

There are a small number of other cutaneous conditions that may arise in the region of the mandible, but they have clinical features that distinguish them from OST.

■ **Pyogenic granuloma** presents as an erythematous papule that bleeds on contact. It usually develops rapidly following antecedent trauma.

■ **Actinomycosis** usually appears as an indolent plaque, with draining sinuses that extrude yellow grains on pressure. It may result from an underlying dental infection.

■ **Squamous cell carcinoma** of the skin often presents as a scaly plaque or non-healing ulcer with irregular margins and everted edges.

■ **A furuncle** is a tender, erythematous papule or nodule centered on a hair follicle. It is commonly associated with *Staphylococcus aureus* infection.

Treating OST

Treatment requires endodontic referral for root canal therapy, after which most cases resolve within a few weeks. OST can heal with post-inflammatory hyper- or hypopigmentation as a result of melanocyte damage. Systemic antibiotic administration is not necessary.³

■ **We referred our patient** to a dentist, who removed the root stumps and provided root canal treatment. The OST healed within several weeks. The patient had residual hypopigmentation after the OST healed, but was satisfied with the outcome. **JFP**

CORRESPONDENCE

Hua-Liang Joel Lim, MBBS, MMed, National Skin Centre, 1 Mandalay Rd, Singapore 308205; joel.lim@mohh.com.sg.

CONTINUED



Odontogenic sinus tract begins with dental caries, which progress to degeneration of the dental pulp and formation of periapical abscesses.

FIGURE 2

Intraoral examination reveals molar root stumps



References

1. Cioffi GA, Terezhalmay GT, Parlette HL. Cutaneous draining sinus tract: an odontogenic etiology. *J Am Acad Dermatol.* 1986;14:94-100.
2. Brown RS, Jones R, Feimster T, et al. Cutaneous sinus tracts (or emerging sinus tracts) of odontogenic origin: a report of 3 cases. *Clin Cosmet Investig Dent.* 2010;2:63-67.
3. Susic M, Krakar N, Borcic J, et al. Odontogenic sinus tract to the neck skin: a case report. *J Dermatol.* 2004;31:920-922.