Hole in Jaw Has Drained Fluid for 20 Years

A 74-year-old woman is referred to dermatology by the primary care provider at her nursing home. She has a small hole on her left jaw that has drained foul-smelling material for more than 20 years. Although the site has never been painful, it occasionally swells and becomes slightly sensitive before slowly returning to its usual small size over a period of weeks.

The patient is in generally poor health, with early dementia, chronic congestive heart failure, and diabetes. All her teeth were removed almost 30 years ago. She is afebrile and in no acute distress.

On the submental aspect of her left jaw, there is a round, 6-cm area of skin that is retracted and fixed around a centrally placed sinus opening (measuring about 2 to 3 mm). A scant amount of purulent-looking fluid can be expressed from the spot. The area is faintly pink, but there is no evidence of increased warmth or tenderness on palpation.

The differential for this lesion should include

a) Sinus tract of odontogenic origin
b) Branchial cleft cyst
c) Squamous cell carcinoma
d) All of the above

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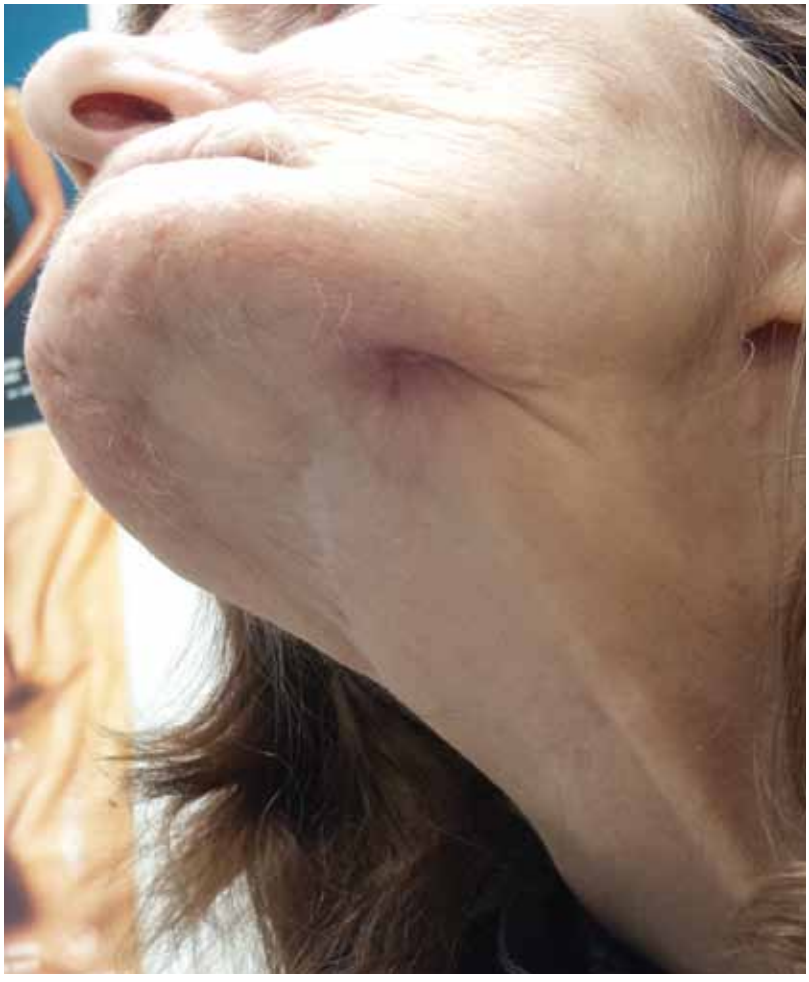

ANSWER

The correct answer is all of the above (choice "d"). The patient's actual diagnosis, sinus tract of odontogenic origin (choice "a"), will be discussed further.

Branchial cleft cyst (choice "b") is always in the differential for neck masses, and squamous cell carcinoma (choice "c") should always be considered in cases of nonhealing lesions—although 20 years is an unlikely timeframe for that diagnosis! Additional differential possibilities include thyroglossal duct cyst and pyogenic granuloma.

DISCUSSION

Sinus tracts of odontogenic origin, also called *dentocutaneous sinus tracts*, are primarily caused by periapical abscesses. As the purulent material accumulates in the confined space around the apical area, pressure increases; this sets in motion a tunneling process that terminates in an outlet, often

inside the mouth but also (often enough) on the skin.

In the latter instance, known as *extraoral sinus,* the opening forms along the chin or submental area. In 80% of cases, the source is the mandibular teeth.

Dermocutaneous sinuses of maxillary origin, though not unknown, are decidedly unusual. They can drain anywhere on the maxilla, including around the nose. In edentulous patients, retained tooth fragments or segments of apical abscesses can act as the nidus for this process.

When a draining sinus manifests more acutely or occurs in a patient from a high-risk area (eg, Mexico or Central America), other diagnoses must be considered. These include scrofula, in which regional nymph nodes, infected by *Mycobacterium tuberculosis* or atypical mycobacterial organism, break down and drain. The indolent nature and chronicity of this patient's problem effectively ruled out this diagnosis.

Culture of the fluid draining from the abscess would reveal a number of organisms (mostly of the strep family) but would not show the actual causative bacteria, since they are typically anaerobic. Biopsy of the surrounding tissue is occasionally necessary, when squamous cell carcinoma or other neoplastic process is suspected.

TREATMENT

The patient was advised to see a dentist, who will likely obtain a panoramic radiograph of her teeth, with particular attention to the affected area.

If an abscess is identified, as expected, treatment would entail root canal or extraction. The sinus tract would then heal rather quickly.

Antibiotics would be of limited use without elimination of the pocket. However, when patients complain of discomfort or outright pain, antibiotics (eg, penicillin V potassium or amoxicillin/clavulanate) can help to reduce the inflammation and offer some relief. **CR**