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Odontogenic Cutaneous Sinus Tract: a Potential Diagnostic Pitfall

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BACKGROUND

Odontogenic cutaneous sinus tracts are rare extraoral manifestations of chronic dental infections that may present as persistent inflammatory lesions of the skin.[1] They most commonly arise from periapical inflammation, which spreads along the path of least tissue resistance through the surrounding soft tissues until reaching the skin surface.[1-3]

Typical sites of involvement include the chin, mandibular region, and neck.[4] The clinical presentation may vary considerably, ranging from erythematous nodules to chronic, suppurative lesions with persistent drainage and sinus formation.[3] Importantly, patients may have no apparent dental symptoms, making the underlying odontogenic origin difficult to recognize during the initial dermatological assessment.[5] Consequently, these lesions can mimic common dermatological conditions such as infected epidermoid cysts, cutaneous abscesses, granuloma, ulcer and other chronic inflammatory nodules.[5] Misdiagnosis may lead to repeated surgical interventions or ineffective local treatments without addressing the underlying source of infection.[6] This can delay definitive treatment and increase the risk of persistent lesions and cosmetically relevant scarring.[7] Early recognition of a possible odontogenic origin is therefore essential, particularly in patients presenting with persistent or recurrent draining lesions in the facial or cervical region with no dental symptoms. Appropriate dental evaluation including radiological imaging are crucial for establishing the diagnosis and guiding definitive treatment, which consists of endodontic therapy or extraction of the affected tooth to eliminate the underlying source of infection.[2]

OBJECTIVES

To highlight the diagnostic challenges of odontogenic cutaneous sinus tracts in dermatological practice and emphasize the importance of early recognition of the underlying dental origin to prevent unnecessary interventions and delayed definitive treatment.

METHODS & RESULTS

A 20-year-old male patient presented to a private dermatology practice with a two-week history of a progressively enlarging and draining lesion at the left mandibular angle. Based on the initial clinical presentation, an infected epidermoid cyst was suspected, and the lesion was subsequently incised. Two months later, the patient presented to our dermatology department with persistent drainage despite the previous surgical intervention. The lack of clinical resolution prompted a reassessment of the initial diagnosis and further diagnostic investigations. Clinical examination revealed an erythematous, draining cutaneous nodule with a central sinus opening and a firm, cord-like induration extending towards the left mandibular angle (Fig. 1a). Given the persistent nature of the lesion and the palpable tract-like induration, an underlying process extending beyond the skin was suspected. Computed tomography with contrast-enhanced fistulography revealed periapical osteolysis associated with tooth 35, accompanied by focal destruction of the adjacent mandibular cortex (Fig. 1b). A fistulography revealed the sinus tract extending from the odontogenic focus through the surrounding soft tissues to the cutaneous surface, establishing the dental origin of the persistent lesion (Fig. 1c).

The radiological findings confirmed the diagnosis of an odontogenic cutaneous sinus tract. Following the diagnosis, the patient was referred to the dental department for definitive treatment and eradication of the underlying odontogenic infectious focus.

CONCLUSION

This case highlights the importance of considering an odontogenic origin in patients presenting with persistent or recurrent draining facial lesions. The absence of dental symptoms may delay diagnosis and lead to unnecessary dermatological interventions. Failure to respond to conventional treatment should prompt further investigation, including dental evaluation and appropriate imaging. Early recognition and interdisciplinary collaboration are essential to ensure definitive treatment, prevent diagnostic delays, and minimize the risk of cosmetically relevant scarring.

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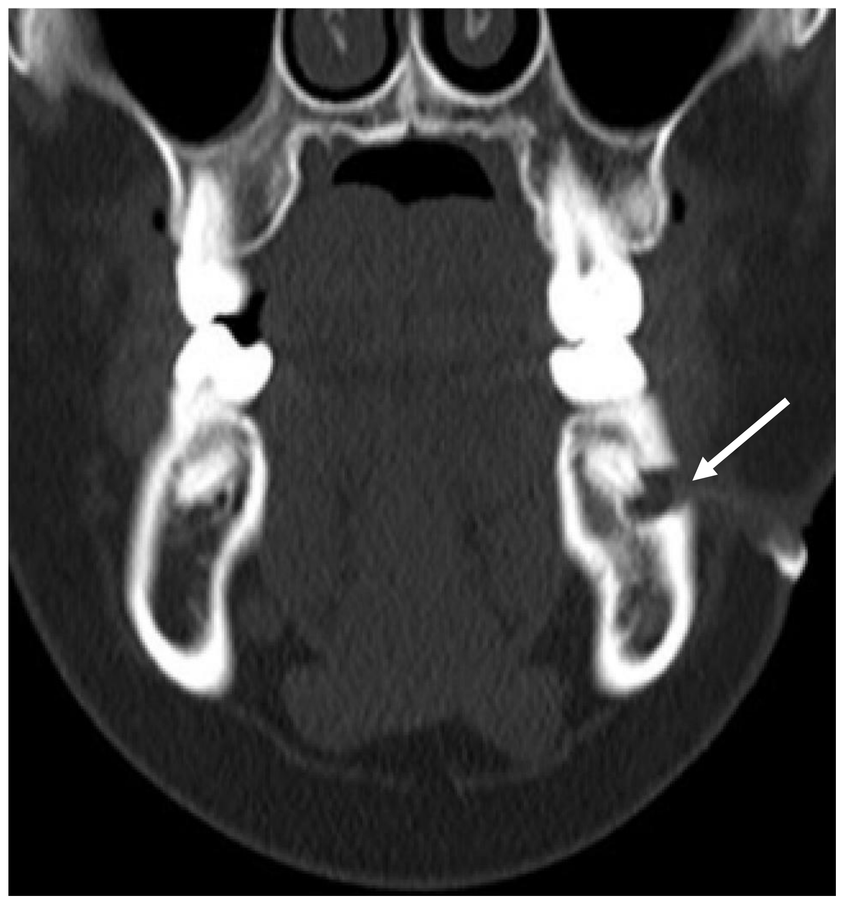
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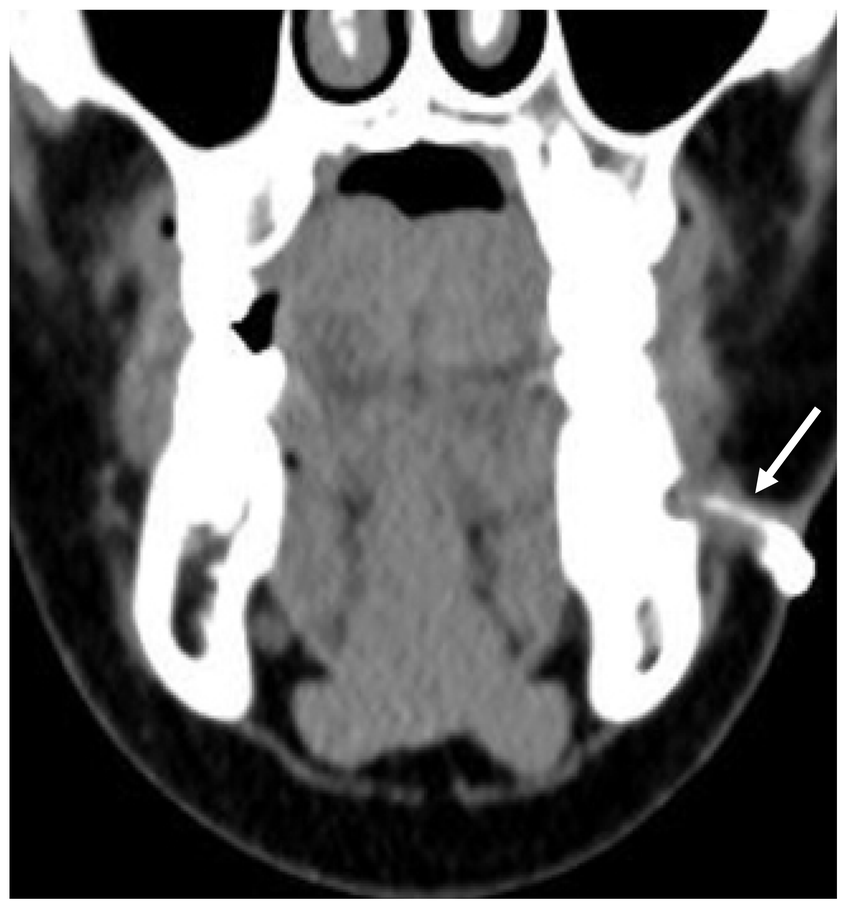
FIGURE 1



(a) Clinical presentation: Draining cutaneous nodule with a central sinus opening at the left mandibular angle.



(b) CT with fistulography (bone window) demonstrating periapical osteolysis associated with tooth 35 (arrow) with focal destruction of the adjacent mandibular cortex.



(c) CT with fistulography (soft tissue window): fistulography reveals sinus tract within the soft tissue, extending from the odontogenic focus to the skin surface (arrow).

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