Actinomycosis: report of a case with a persistent extraoral sinus tract

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Cervicofacial actinomycosis is a chronic suppurative and granulomatous infection that may reside for years and recur with sudden onset. It is the second most common type of actinomycosis and could be caused by trauma or infection. We report a draining actinomycotic sinus tract with extraordinary thickness that occurred owing to a long-standing chronic periapical infection of an extracted upper left second premolar 3 years before. (Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2011;112:e121-e123)

Actinomycosis is a chronic suppurative and granulomatous infection which usually spreads into adjacent soft tissues without regard to tissue planes.1 Actinomyces are nonacid fast gram-positive anaerobic or microaerophilic filamentous branched bacteria2 that are found as commensal organisms in vivo.3 Actinomyces have been isolated in saliva, salivary calculi, carious cavities, bone sequestrum, and tonsillar crypts. They may become pathologic when they gain access to the subcutaneous tissues especially in immunocompromised patients.4

Actinomycosis is classified into 3 distinct clinical forms: cervicofacial (CFA), pulmonary or pulmothoracic, and abdominal-pelvic.2,5 CFA is the most common type and accounts for greater than half of reported cases.6 It frequently occurs due to dental or oromaxillofacial trauma and caries.7 Herein, we report a sporadic case of a draining actinomycotic sinus tract with an extraordinary thickness that occurred due to a long-standing chronic periapical infection of the upper left second premolar, which was extracted 3 years ago.

CASE REPORT

A 42-year-old female patient admitted with a history of exacerbating painless mass at the left buccal region that still was active after extraction of her upper left second premolar, owing to periapical infection that lasted for 3 years. No root canal treatment was present in the adjacent teeth, and the pulp vitality test confirmed vitality. There was a class I amalgam restoration on the first and the second molars. Besides, a very thick fibrotic tract was found to originate from the apical region of the extracted second premolar and draining extraoral termination to the left cheek skin region (Fig. 1). The skin was firmly attached to the active sinus tract that was contracting the overlying skin region and causing a large shallow depression with cheek motion. The tract was excised under local anesthesia (articaine HCl with 0.2% epinephrine; Maxicaine Fort, Vem Ilaç, Turkey). An intraoral semilunar incision was made to detach it from the periapical alveolar bone, and the hyperplastic tract was dissected bluntly through the buccinator muscle from extraoral to intraoral direction (Fig. 2).

The size of resected specimen, which had a bifurcating pattern, was 4.5 × 1.5 cm² (Fig. 3). The histopathologic examination revealed chronic inflammation with presence of multiple granules surrounded by polymorphocytes, presence of sulfur granules and actinomycotic colonies of gram-positive filaments (Fig. 4). The patient experienced slight paralysis of the buccal branch of the facial nerve; however, the complication resolved completely within 3 weeks. The patient was followed for 1 year after the operation and recalled each month. She showed complete recovery with no recurrence of the actinomycotic infection.

DISCUSSION

CFA infections are uncommon, and the diagnosis is often missed or delayed because of general unfamiliarity with the disease.8 The other responsible factor for misdiagnosis is the phenotypical similarity to malignant or granulomatous diseases. In the present case, the patient reported formation of an abscess and swelling in her cheek that drained occasionally after formation of a sinus tract. However, teeth were vital and no focal periapical infection was detected. The patient reported an earlier periapical infection of an extracted premolar. Bacterial source in these infections is generally a decayed tooth which results in formation of an infectious
torpid granuloma that gets larger with eventual bone damage, possible suppuration, and formation of abscesses or fistulas.9,10

The reported case might have occurred by a previous periapical actinomycotic infection of the second premolar or extraoral inoculation of Actinomyces through the opening of the sinus tract.10 After extraction, remnant granulation tissue and the sinus tract might have kept its low-grade actinomycotic activity. The resistant nature of actinomycosis may demonstrate unusual recurrences even after years.11

The classic formation of spontaneous sinus tracts with draining purulent material is observed in ~40% of cases and, when present, may be helpful for differential
diagnosis. However, the osteocutaneous fistula simulates an odontogenic abscess, especially when the clinical picture has been altered by an improper use of antibiotics. Because of these nonspecific manifestations, clinical differential diagnosis of actinomycosis is still difficult. Histopathologic examination is necessary for certain diagnosis. The present case is consistent with the literature in that the resistant infection was difficult to eliminate in CFA, and a draining fistula due to CFA in such size (4.5 \times 1.5 \text{ cm}^2) has not been reported in the literature at the cheek region. Chronic low-grade actinomycosis might be responsible for the unusual thickness and the hyperplastic nature of the long-standing sinus tract.

REFERENCES

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