

AIM: This case report presents the diagnosis and nonsurgical endodontic management of extraoral sinus tracts of odontogenic origin through two representative clinical cases.

INTRODUCTION: Extraoral sinus tracts of odontogenic origin are uncommon clinical entities that are frequently misdiagnosed as dermatological lesions. They usually arise from long-standing dental infections associated with trauma, caries, or periodontal disease, most commonly in the presence of chronic apical periodontitis. Correct identification of the odontogenic source is critical, as elimination of the dental infection typically results in complete healing without the need for surgical intervention.

CASE 1

A 59-year-old male patient presented with an extraoral sinus tract in the right maxillary region. Clinical examination revealed negative responses to cold pulp sensibility testing in teeth #13 and #15. Both percussion and palpation tests were negative. Radiographic evaluation demonstrated a periapical radiolucency associated with tooth #15, which was identified as the etiological source. Based on the clinical and radiographic findings, a diagnosis of chronic apical abscess was established, and nonsurgical root canal treatment was planned.

At the first visit, chemomechanical preparation was completed using WaveOne Gold (WOG [Dentsply Maillefer, Switzerland]) files, with WOG Primary (25/.07) and Medium (35/.06) used as the final instruments. Irrigation was carried out with 2.5% sodium hypochlorite between each instrument change. Calcium-hydroxide was placed as an intracanal medicament. At the second visit, final irrigation was performed using 2.5% sodium hypochlorite and 17% EDTA, followed by saline solution, with all irrigants activated ultrasonically. The root canals were subsequently obturated with gutta-percha cones and a bioceramic-based root canal sealer.



Preoperative Extraoral Photograph Showing Sinus Tract

Follow-up Extraoral Photograph



Preoperative Radiograph

Postoperative Radiograph

Follow-up Radiograph

CASE 2

A 24-year-old male patient presented with a persistent sinus tract in the left mandibular region of approximately two months' duration. Medical history revealed multiple unsuccessful courses of antibiotic therapy. Clinical and radiographic examinations identified tooth #36 as the etiological source, and a diagnosis of chronic apical abscess was established.

Root canal treatment was performed using a two-visit protocol. Chemomechanical preparation was completed with a WOG Primary (25/.07) file and irrigation with 2.5% sodium hypochlorite. Calcium-hydroxide was used as an intracanal medicament. At the second visit, the root canal system was irrigated with 2.5% NaOCl, 17% EDTA, and saline solution, and ultrasonic activation was applied throughout the final irrigation protocol before obturation with gutta-percha and a resin-based root canal sealer.



Preoperative Extraoral Photograph Showing Sinus Tract

Follow-up Extraoral Photograph



Preoperative Radiograph

Postoperative Radiograph

12-Month Follow-up Radiograph

RESULTS: In both cases, the extraoral sinus tracts completely healed, with clinical improvement observed on average within ten days following root canal treatment. Clinical and radiographic evaluations at 1, 6, and 12 months revealed no signs of infection, and all treated teeth remained asymptomatic and functional.

DISCUSSION: Extraoral sinus tracts of odontogenic origin are frequently misdiagnosed due to their resemblance to dermatological lesions, often leading to unnecessary antibiotic use or surgical interventions. Comprehensive intraoral and extraoral examination is essential for correct diagnosis. Elimination of the intracanal infection through effective irrigation, activation, and intracanal medication is the key factor in achieving complete healing.

CONCLUSION: Extraoral sinus tracts of odontogenic origin can be successfully managed with nonsurgical root canal treatment using antimicrobial irrigation and intracanal medicaments. Surgical intervention is not recommended in the initial stage.

References:

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