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Non-Surgical Management of Extra-Oral Sinus: A Case Report

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Abstract

Often misinterpreted as skin lesions, extraoral sinus tracts of dental origin are rare but clinically relevant disorders. These tracts, which might appear as persistent drainage sites on the face or neck, are usually caused by chronic periapical infections. The goal of non-surgical treatment is to promote sinus tract repair while addressing the underlying problem. This method eliminates the need for invasive surgical procedures by guaranteeing sinus tract closure and preventing recurrence. Successful non-surgical outcomes in the management of extraoral sinus tracts depend on an accurate diagnosis and prompt intervention.

Keywords: extraoral sinus tracts, chronic periapical infections, non-surgical management

Introduction

The sinus tract is defined as a channel leading from an enclosed area of inflammation to an epithelial surface. The opening of the sinus tract can be located either intraorally or extraorally (Cohenca et al., 2003). Patients with cutaneous sinus tracts often undergo dermatological and other surgical interventions before being referred to the dentist. Therefore, all chronic draining sinus tracts of

the face and neck signal the need of a thorough dental evaluation to avoid submitting patients to multiple biopsies, antibiotic regimens and unnecessary surgery (Brown et al., 2010; Kansal et al., 2013).[1] The sinus tract is a sequel to a diseased condition where the site of drainage can be external or internal, depending on certain circumstances such as tooth affected, apex position to muscular attachments, bacterial virulence, lower host resistance and path of least resistance along structures.[1,2]

Case Report

A 16 year old male patient reported to the Department of Conservative Dentistry & Endodontics with the chief complaint of pain and a large swelling in the lower right back region of the jaw.

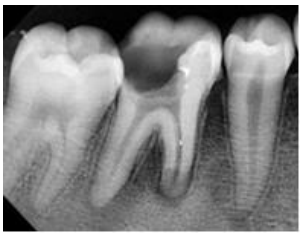
The patient gave a history of intermittent pain and was concerned about the size of the lesion for which he had visited a dentist nearby. He then developed a small nodule in the lower border of his right cheek, which grew over the past few weeks. The pain became severe, which had been pulsating in nature for the past days.

During the examination, a gutta percha of 25.4% was used to trace the sinus tract, which revealed that the culprit tooth was the lower right first molar. While performing percussion tests, the tooth was slightly tender and painful, unresponsive to thermal and electric pulp vitality test.

Extraoral examination: swelling of 3x3 cm, non-fixed swelling, is seen in relation to the lower border of the mandible in the 45,46 region.

Intraoral examination: initiation of root canal treatment 46, with no intermediate restorative material.

Pre-Operative View



Pre-operative photograph **Pre-operative radiograph**

The treatment plan was first to trace the extraoral sinus tract, followed by root canal treatment with an intra-appointment calcium hydroxide dressing.

Treatment

In the first appointment, local anesthesia was administered by inferior alveolar nerve block without any local infiltration around 46. Sinus tract tracing was done using a #25 G.P. point. Rubber dam isolation was achieved and access opening of 46 was done after occlusal reduction.

Soon after canals were negotiated with the #10 k file, pus drainage was evident from the mesiobuccal and mesiolingual canals. Copious saline irrigation was done, followed by 2.5% NaOCl irrigation, and then calcium hydroxide dressing was given. The patient was prescribed systemic oral antibiotics for three days and recalled after seven days.

On the next visit, working length was determined using an electronic apex locator. Working lengths obtained were MB 17.5 mm, ML 18 mm, and D 18 mm in 46. Cleaning and shaping of the canals were done with 25 4% file in the MB and ML canals and 25 6% in the D canal. The calcium hydroxide dressing was changed again.

Working length determination

Intra-canal medicament

The patient was recalled again after 7 days. The extra oral swelling had decreased almost completely at this visit. The overall pain had also subsided. After confirming the canals were dried using sterile paper points, the canals were obturated and post-endodontic restoration was done with composite.

Master cone radiograph

Post-obturation radiograph

The patient was kept under follow up. After 1 month, the extra-oral sinus tract had completely subsided with a minimal scar left extra-orally.

Pre-operative photograph

Post-operative photograph

Discussion

According to Mardones et al. (2010), chronic apical periodontitis brought on by infected pulp necrosis frequently results in the development of the odontogenic cutaneous sinus tract on the facial and cervical skin. It is possible for the apical infection to penetrate the cortical bone after spreading through the marrow cavity. Salivary gland and duct fistula, suppurative lymphadenitis, and defects of thyroglossal duct origin or branchial cleft are uncommon entities to be included in the differential diagnosis (Kansal et al., 2013; Patni et al., 2010).

Non-surgical therapy is the treatment of choice if the tooth is restorable. Extraction is indicated for non-restorable teeth (Satish et al., 2013).

There are some discrepancies in the literature about the a ctual removal of the sinus tract.

When treating oral pathology, Winstock (1959) advised

excision of the cutaneous disease and sinus in continuity, followed by prompt restoration of the cutaneous site. Nonetheless, the majority of authors noted that the sinus tract and cutaneous lesion heal on their own without additional care once the main odontogenic etiology is eliminated.

After elimination of the etiology of the infection, the sinus tract regularly disappears within 5 to 14 days (Cantatore et al., 2002). Root canal irrigation is one of the most critical procedure and a very important factor adjudicating on the success of root canal treatment. Sodium hypochlorite was used most of the time to irrigate the root canals, because of its bactericidal effects and for dissolving residual necrotic tissue.

Conclusion

An efficient and minimally intrusive method for treating the underlying dental infection, promoting healing, and preventing recurrence is non-surgical therapy of the extraoral sinus tracts. The key to effective outcomes is prompt diagnosis, appropriate root canal therapy, and adjuvant antimicrobial measures, which frequently eliminate the need for surgery.

References

1. Krishnamurthy S.K et al., Management of an Endodontic Infection with an Extra Oral Sinus Tract in a Single Visit. Journal Clinical and Diagnostic Research. 2013 June, 7(6): 1247-9.
2. Abdelmoumen E, Skhiri SZ, Boughzela A.Non surgical management of cutaneous sinus tract of odontogenic origin: A case report. J. Dent. Oral Hyg.6(3):30-35.
3. Bansode PV, Bhalerao VU, Pathak SD, Wavdhane MB, Rana H, Rai S. Nonsurgical healing of large periapical lesion with nonsurgical root canal treatment and intracanal medicament of calcium hydroxide and chlorhexidine: a case report. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). 2019;18(1):40-3.
4. John G,Singh T, Aleem A,Thakur N.S. Non surgical endodontic treatment of cutaneous extraoral sinus tract: Report of 2 cases. Asian Pac. J. Health Sci., 2015; 2(4S): 11-14.
5. Cohenca N, Karni S, Rotstein I. Extraoral sinus tract misdiagnosed as an endodontic lesion. J Endod. 2003 Dec;29(12):841-3. doi: 10.1097/00004770-200312000 -00015. PMID: 14686820.
6. Gupta R, Hasselgren G. Prevalence of odontogenic sinus tracts in patients referred for endodontic therapy. J Endod. 2003 Dec;29(12):798-800. doi: 10.1097/ 00004770-200312000- 00003. PMID: 14686808.
7. Bansode PV, Pathak SD, Wavdhane MB, Khedgikar S, Gite S. Non-Surgical Repair of a Perforation Defect-A Case Report. Quest J: J Med Dent Sci Res. 2017;4(1):32-5.7
8. Güleç AT, SeçkinD, BulutS, Sarfakoğlu E. Cutaneous sinus tract of dental origin. International journal of dermatology. 2001; 40(10):650–652. https://doi.org/ 10.1046/j.1365- 4362.2001.01287-3.x
9. Cioffi GA, Terezhalmy GT, Parlette HL. Cutaneous draining sinus tract: an odontogenic etiology. J Am Acad Dermatol. 1986 Jan;14(1):94-100. doi: 10.1016/s0190-9622(86)70012-1. PMID: 3950118.
10. Johnson BR, Remeikis NA, Van Cura JE. Diagnosis and treatment of cutaneous facial sinus tracts of dental origin. J Am Dent Assoc. 1999 Jun;130(6):832-6. doi: 10.14219/ jada.archive. 1999.0307. PMID: 10377641.