

Management of a Nonvital Tooth with Grade 2 Mobility and Gingival Pus Discharge: A Case Report

Nonvital Tooth with Grade 2 Mobility and Gingival Pus Discharge

Abdulaziz Abdulrahman Aleid

ABSTRACT

In the management of nonvital, mobile teeth and pus discharge in the gingival sulcus, an interdisciplinary holistic approach using a combination of endodontic and periodontal treatment could achieve success. The present case reports the management of a 30-year-old patient having a grade two mobility nonvital tooth and pus discharge from the gingival sulcus. Initial emergency care was provided followed by endodontic therapy started a week after therapy initiation. Three times during three weeks $\text{Ca}(\text{OH})_2$ dressing was applied. It had been followed by obturation of the root canal system. Three-month follow-up revealed a considerable decrease in mobility of the tooth (grade 1) along with healthy gingival tissue. This particular case illustrates the need for interdisciplinary periodontal and endodontic therapies to enhance challenging clinical problems of nonvital teeth with relevant periodontal issues.

Key Words: Nonvital, Mobility, Pus Discharge, Endo - perio lesions

Citation of Case report: Aleid AA. Management of a Nonvital Tooth with Grade 2 Mobility and Gingival Pus Discharge: A Case Report. Med Forum 2024;35(2):93-95. doi:10.60110/medforum.350221.

INTRODUCTION

Endo-perio lesions represent the most frequent reason for difficult clinical situations for dental professionals. Because of the combined pulpal and periodontal pathologies, it frequently presents with diagnostic difficulties and difficulty in healing.¹ Some etiologies might be multifactorial such as bacterial infections, anatomical contacts or iatrogenic factors.² Diseases of the pulp mostly spread to the other concurrently or sequentially.³ The pathogenesis of endo perio lesions should be apparent for control. These lesions could arise from the pulp and cause secondary periodontal issues (endo-origin) or they might develop as periodontal illnesses with secondary pulp tissue infection (perio-origin). Occasionally both periodontal and endodontic conditions show up concurrently but independently (true combined lesions).⁴ Their complexity necessitates a detailed diagnostic process including medical analysis, radiographic assessment, pulp vitality test and periodontal probing.⁵ Endo-perio lesions require combined endodontic and periodontal management.

Department of Conservative Dental Science, Dental College, Al-Qassim University, Saudi Arabia.

Correspondence: Dr. Abdulaziz Abdulrahman Aleid, Associate Professor of Conservative Dental Science, Dental College, Al-Qassim University, Saudi Arabia.
Contact No: +966555144960
Email: aa.aleid@qu.edu.sa

Received: December, 2023
Accepted: January, 2024
Printed: February, 2024

This could include root canal therapy, periodontal therapy or both based on the cause and extent of the lesion. The prognosis of the disease is determined by the severity of the lesion, existing conditions and patient reaction to treatment. The current case illustrates the need for a combined endodontic and periodontal approach for the management of nonvital teeth mobility and pus discharge. The timely intervention and $\text{Ca}(\text{OH})_2$, which has antimicrobial properties and healing ability, were responsible for the success in this instance.

CASE PRESENTATION

A 30-year-old patient without any pertinent medical background reported to the Department of Diagnostics with dental concerns. The main complaint was grade 2 mobility of a tooth and active pus discharge from the gingival sulcus. Clinical examination found a nonvital tooth and an unpleasant odour of the area. The individual didn't report pain. A thorough clinical examination together with needed radiographic evaluations were performed to look at the scope of the periodontal and endodontic issues. Radiographs and clinical data demonstrated endodontic and periodontal intervention was needed.

The therapeutic strategy was utilized in several stages. Initially, acute symptoms were addressed. This initial phase was essential in controlling the discomfort and infection. Seven days later endodontic therapy was initiated. This comprised dressing and use of Calcium hydroxide ($\text{Ca}(\text{OH})_2$) three times more than 3 weeks. Calcium hydroxide was selected for its wound-healing and antibacterial functions.



Figure No.1: Panoramic Radiograph Illustrating the Nonvital Tooth with Grade 2 Mobility



Figure No.2: Detailed Periapical Radiograph Showing the Extent of the Periodontal Disease



Figure No.3: Post-treatment Periapical Radiograph Demonstrating the Reduced Mobility and Healing Outcomes

Endodontic therapy was concluded by root canal system obturation. This closed the root canal and prevented additional bacterial infiltration. The patient had been then scheduled for a follow-up at three months 'time. This particular period demonstrated an improvement markedly. Periodontal stability was grade 1 with reduced tooth mobility. The gingival tissue around the tooth was also healthy and free from discharge. The patient also reported complete resolution of bad odour and no pain or discomfort with treatment teeth.

This particular case illustrates the importance of a holistic treatment of complicated endodontic and periodontal issues in tooth management. The successful outcome (reduced tooth mobility and resolution of infection symptoms) indicates therapeutic interventions chosen.

DISCUSSION

The case study describes the management of a grade 2 mobile nonvital tooth with gingival pus discharge. Moreover, this case study highlights the effectiveness of the combined approach of endodontic and periodontal treatment. It is essential to understand the pathogenesis, development and relationship of endo-perio lesions to treat them. Endodontic and periodontal treatments were needed as the patient was discharging pus from the gingival sulcus and giving off an unpleasant odour - both signs associated with a persistent infection.⁶

Since calcium hydroxide ($\text{Ca}(\text{OH})_2$) has the dual function of antibacterial activity and endotoxin neutralisation activity, it was considered a strategic alternative.⁷ Concerning this specific instance, its ability to help recover periodontal tissues has also been beneficial here. There was a significant improvement during follow-up, tooth mobility decreased from grade 2 to grade 1. This improvement is possibly a consequence of the immediate treatment. This highlights the significance of considering endodontic health as an essential part of the treatment of endo-perio issues.⁸

This case also shows that dental treatment must be multidisciplinary. While the main intervention was endodontic, the periodontal facet of the condition was also treated concurrently. This holistic approach allowed for the management of both the cause & effect of the infection. Long-term therapy results were additionally included at 3 months follow-up. Symptom resolution and stabilization of the tooth indicated a great therapy response. Nevertheless, such cases must be managed often with follow-ups and maintenance to stay away from recurrence and to maintain the teeth healthy.⁹

CONCLUSION

Nonvital teeth with periodontal problems require comprehensive management. This case report illustrates that with proper endodontic and periodontal therapy a tooth that was grade 2 mobile and infected at presentation can be saved.

Author's Contribution:

Concept & Design of Study:	Abdulaziz Abdulrahman Aleid
Drafting:	Abdulaziz Abdulrahman Aleid
Data Analysis:	Abdulaziz Abdulrahman Aleid
Revisiting Critically:	Abdulaziz Abdulrahman Aleid
Final Approval of version:	Abdulaziz Abdulrahman Aleid

Conflict of Interest: The study has no conflict of interest to declare by any author.

Source of Funding: None

Ethical Approval: No.06-41-23 dated 05.06.2023

REFERENCES

- Oh SL, Fouad AF, Park SH. Treatment strategy for guided tissue regeneration in combined endodontic-periodontal lesions: case report and review. *J Endodontics* 2009;35(10):1331-6.
- Prasanth T. Management of Endo-Perio Lesion: A Case Report. *Int J Sci Res* 2020;10:603-16.
- Makeeva MK, Daurova FY, Byakova SF, Turkina AY. Treatment of an endo-perio lesion with ozone gas in a patient with aggressive periodontitis: A clinical case report and literature review. *Clinical, Cosmetic Investigational Dentistry* 2020;Oct 28:447-64.
- Khojaste M, Navabi S, Shiezhadeh F. Treatment of a Hopeless Tooth with Combined Endodontic-periodontal Lesion Using Guided Tissue Regeneration: A Case Report with One Year Follow-up. *Iranian Endodontic J* 2022;17(4):212.
- Vishwanath V, Rao HM, Prasad BK, Shashikala K. Successful endodontic management of endo-perio lesions with different treatment modalities: case series. *SRM J Res Dent Sci* 2019;10(2):105-9.
- Anand PS, Nandakumar K. Management of periodontitis associated with endodontically involved teeth: a case series. *J Contemporary Dent Prac* 2007;6(2):118-29.
- Sharma R, Hegde V, Siddharth M, Hegde R, Manchanda G, Agarwal P. Endodontic-periodontal microsurgery for combined endodontic-periodontal lesions: An overview. *J Conservative Dentistry: JCD* 2014;17(6):510.
- Chen X, Bao ZF, Liu Y, Liu M, Jin XQ, Xu XB. Regenerative endodontic treatment of an immature permanent tooth at an early stage of root development: a case report. *J Endodontics* 2013;39(5):719-22.
- Chaves DM, Canal Ab, Balzan S, Crespi RD, Lemes IT, Dos Santos TL. Endodontic treatment and preservation of a five channel lower molar with symptomatic apical periodontitis: Case Report. *J Res Dent* 2022;10(3).