International Journal of Enhanced Research in Medicines & Dental Care (IJERMDC),
ISSN: 2349-1590, Vol. 12 Issue 3, March 2025

Endodontic-Periodontic Lesion: A Clinical Case Report

Dr. Rma Arya

MDS, Department of Periodontology, PGIDS, Rohtak

ABSTRACT

Endo-perio lesions pose a diagnostic dilemma in periodontal practice due to their overlapping symptoms and complex pathogenesis. This report presents the periodontal perspective of managing a case involving an isolated deep periodontal pocket in tooth 41, secondary to a primary endodontic lesion. Clinical signs included a 5 mm pocket, sinus tract formation, and radiographic periapical radiolucency. Following endodontic treatment, targeted periodontal therapy was employed to enhance healing and preserve periodontal health. This case underscores the critical role of periodontal diagnosis and supportive therapy in resolving lesions of endodontic origin.

Keywords: probing pocket depth, endo-perio, inflammation, suppuration, periapical radiolucency

INTRODUCTION

Periodontists frequently encounter lesions that mimic true periodontal pathology but stem from pulpal origin. The anatomical interrelationship between the pulp and periodontium, via the apical foramen, lateral canals, and dentinal tubules, allows for bidirectional transmission of infection and inflammation.[1,2] In this context, the term "endo-perio lesion" denotes a spectrum of conditions that may present with features common to both disciplines but differ significantly in etiology, prognosis, and treatment strategy.

The classic classification of Simon et al. (1972) remains clinically relevant, distinguishing lesions into primary endodontic, primary periodontal, and combined types.[3,4] Of particular interest to the periodontist is the primary endodontic lesion with secondary periodontal involvement, as these may initially present with localized periodontal destruction, deep pockets, or sinus tracts, mimicking aggressive periodontal disease.[4]

The present case report illustrates the diagnostic and therapeutic considerations from a periodontal standpoint in managing an endo-perio lesion affecting tooth 41, highlighting the importance of interdisciplinary collaboration.

CASE REPORT

Patient Information and Clinical Findings

A 37-year-old male reported to the periodontal clinic with a chief complaint of dull pain and occasional swelling in the lower anterior region for the past 10 days. He denied any significant medical history.

On periodontal examination a localized 5 mm pocket was noted on the labial aspect of tooth 41. The gingiva appeared slightly erythematous with a visible sinus tract adjacent to the affected site. Bleeding on probing was absent in the region. Tooth 41 was non-vital on thermal and electric pulp testing. Radiographically, a well-circumscribed periapical radiolucency was observed around the apex of 41. Tracing of the sinus tract using gutta-percha revealed communication directly with the apex of 41.

Diagnosis

Based on clinical, periodontal, and radiographic evaluations, a diagnosis of endo-perio lesion with primary endodontic origin was made, with secondary periodontal involvement localized to the labial aspect of tooth 41.

Periodontal Management Approach

From a periodontal perspective, treatment objectives included:

- Resolving the secondary periodontal component.
- Promoting periodontal healing and reattachment.

- Preventing progression to a true combined lesion.

Phase I – Initial Periodontal Therapy

- Oral hygiene instructions were reinforced.
- Full-mouth supragingival and subgingival scaling was performed, with emphasis on debridement of tooth 41.
- Local irrigation with chlorhexidine gluconate (0.12%) was carried out.
- Systemic antibiotics were not prescribed as the infection was localized and draining.

The patient was re-evaluated after initial periodontal therapy. The sinus tract persisted, and the pocket depth remained unchanged, supporting a diagnosis of endodontic origin.

Endodontic Intervention

The patient was referred for root canal treatment (RCT) of tooth 41.

Phase II – Periodontal Re-evaluation and Supportive Therapy

- Four weeks post-obturation, periodontal re-evaluation showed complete resolution of the sinus tract and reduction of the probing depth from 5 mm to 3 mm, with no bleeding on probing.
- Radiographic follow-up at 3 months revealed reduction in the size of the periapical lesion.
- The site was monitored, and the patient was placed on a 3-month periodontal maintenance schedule.

No further surgical periodontal intervention was deemed necessary due to the favourable clinical response.

DISCUSSION

Periodontal evaluation plays a critical role in the early differentiation of endo-perio lesions. In this case, the presence of a deep isolated pocket, with a non-vital pulp and sinus tract communication with the apex, pointed strongly toward a primary endodontic lesion.

Periodontists must consider endodontic pathology in the differential diagnosis of isolated deep pockets, especially in the absence of generalized periodontitis or attachment loss. Relying solely on periodontal probing without vitality testing or radiographic tracing can lead to misdiagnosis and unnecessary periodontal surgery.[5]

Interestingly, the 5 mm pocket noted in this case did not reflect true periodontal destruction but a path of drainage for the endodontic infection. Such pseudo-pockets typically resolve post-endodontic treatment without the need for surgical flap therapy.[6]

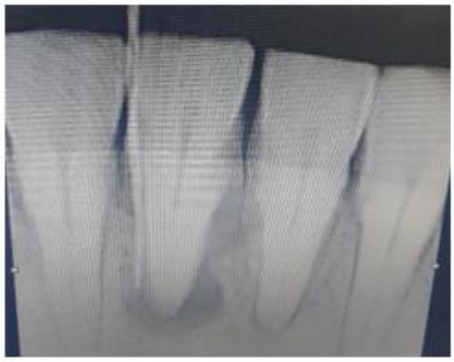
Supportive periodontal therapy, including mechanical debridement and plaque control, plays a vital adjunctive role in promoting gingival healing and minimizing secondary microbial colonization.[7] Maintenance therapy is crucial to ensure long-term stability and prevent recurrence, especially in anatomically susceptible sites such as the lower anterior region.

CONCLUSION

This case emphasizes the importance of periodontal assessment in diagnosing endo-perio lesions. A deep, localized periodontal pocket may not always indicate primary periodontal disease. Timely endodontic therapy, combined with targeted periodontal management and maintenance, can lead to successful resolution of such lesions. Interdisciplinary cooperation between periodontists and endodontists is essential for achieving optimal outcomes in complex cases.

CLINICAL PICTURE

RADIOGRAPHIC PICTURE



REFERENCES

1. Zehnder M. Root canal irrigants. J Endod. 2006;32(5):389–398.
2. Ricucci D, Siqueira JF Jr. Pathobiology of apical periodontitis. In: Endodontology. Quintessence; 2013.
3. Simon JH, Glick DH, Frank AL. The relationship of endodontic-periodontic lesions. J Periodontol. 1972;43(4):202–208.
4. Torabinejad M, Trope M, Langeland K. Endodontic and periodontal interrelationships. In: Walton RE, Torabinejad M, eds. Endodontics. 4th ed. Saunders; 2002.
5. Herrera D, Retamal-Valdes B, Alonso B, Feres M. Acute periodontal lesions and endo-periodontal lesions. J Clin Periodontol. 2018;45(Suppl 20):S78–S94.
6. Rotstein I, Simon JH. Diagnosis, prognosis and decision-making in the treatment of combined periodontal-endodontic lesions. Periodontol 2000. 2004;34:165–203.
7. Nair PN. On the causes of persistent apical periodontitis: a review. Int Endod J. 2006;39(4):249–281.