

IMPORTANCE OF EARLY DETECTION OF MIXED ENDODONTIC - PERIODONTAL LESIONS IN DENTAL PRACTICE A 'LETTER TO THE EDITOR'

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We read with great interest the growing body of literature addressing the complex interrelationship between pulpal and periodontal diseases. Among these, mixed endodontic–periodontal lesions represent a particularly challenging clinical entity that continues to pose diagnostic and therapeutic dilemmas in routine dental practice. We would like to highlight the importance of early detection of these lesions and underscore its implications from both a clinical and publication perspective.

Mixed endodontic–periodontal lesions arise due to the close anatomical and functional relationship between the dental pulp and the periodontium.¹ Communication pathways such as apical foramina, lateral and accessory canals, dentinal tubules, and developmental anomalies facilitate the spread of infection between these two tissues.¹ As a result, pathology originating in either the pulp or the periodontium may secondarily involve the other, often leading to overlapping clinical and radiographic features. This intricate interconnection makes early diagnosis both critical and challenging.²

From a clinical standpoint, delayed or inaccurate diagnosis of mixed lesions can significantly compromise treatment outcomes.² These lesions are frequently misdiagnosed as isolated endodontic or periodontal diseases, resulting in incomplete or inappropriate management. For example, periodontal therapy alone may fail if the primary etiology is pulpal infection, while endodontic treatment alone may not yield favorable results in the presence of advanced periodontal destruction.³ Early identification of the primary source of infection allows clinicians to formulate a comprehensive, sequential treatment plan that addresses both components effectively, thereby improving prognosis and tooth survival.³

Early detection is particularly important because the prognosis of mixed endodontic–periodontal lesions largely depends on the extent and duration of periodontal involvement.⁴ Lesions identified at an early stage, before significant attachment loss and bone destruction occur, demonstrate significantly better clinical outcomes following appropriate endodontic therapy combined with periodontal intervention.⁵ Conversely, advanced lesions often exhibit guarded to poor prognosis, frequently leading to tooth loss despite optimal treatment. Therefore, timely diagnosis not only influences therapeutic success but also plays a pivotal role in preserving natural dentition.⁵

Diagnostic challenges associated with these lesions further emphasize the need for heightened clinical awareness.⁵ Symptoms such as deep periodontal pockets, sinus tracts, tooth mobility, and radiolucencies may be present in both endodontic and periodontal diseases. Vitality

testing, periodontal probing, radiographic interpretation, and thorough clinical examination are essential tools in distinguishing the primary etiology.⁶ Advanced imaging modalities, including cone-beam computed tomography, have further enhanced diagnostic accuracy by allowing three-dimensional visualization of periapical and periodontal defects. Incorporating these diagnostic strategies early in the disease process can significantly reduce misdiagnosis.⁷

From an educational and research perspective, early detection of mixed endodontic–periodontal lesions remains an underrepresented topic in dental literature.⁷ While classification systems and treatment protocols have been proposed, there is a lack of high-quality clinical studies focusing on early diagnostic markers, predictive indicators, and standardized diagnostic algorithms.⁸ This gap presents an important opportunity for researchers and clinicians to contribute meaningful data that

can guide evidence-based practice. Publications emphasizing early diagnosis, diagnostic accuracy, and outcome-based research are likely to have substantial academic and clinical impact.⁹

Moreover, the increasing emphasis on minimally invasive dentistry further reinforces the importance of early detection. Identifying mixed lesions at an early stage allows for conservative therapeutic approaches, reducing the need for extensive surgical interventions.⁸ This aligns with contemporary dental practice trends that prioritize tissue preservation, patient comfort, and long-term functional outcomes. Articles addressing early detection strategies resonate strongly with current editorial priorities focused on preventive and conservative care.⁹

From a publication point of view, letters and original research highlighting early detection serve as valuable contributions by raising awareness, stimulating scholarly discussion, and encouraging further investigation.⁷ Editors and reviewers increasingly favor manuscripts that address clinically relevant problems, propose practical diagnostic frameworks, and identify gaps in existing knowledge. A focused discussion on early detection of mixed endodontic–periodontal lesions fulfills these criteria by bridging clinical practice and academic inquiry.⁸

In addition, interdisciplinary collaboration between endodontists and periodontists plays a crucial role in early diagnosis and management.⁹ Publications emphasizing collaborative diagnostic approaches and integrated treatment planning reflect real-world clinical practice and enhance the translational value of research findings. Such perspectives are particularly appealing to a broad readership, including general practitioners, specialists, educators, and postgraduate students.¹⁰

In conclusion, early detection of mixed endodontic–periodontal lesions is a critical determinant of treatment success, prognosis, and tooth retention. Enhanced diagnostic vigilance, combined with a thorough understanding of pulpal–periodontal interrelationships, can significantly improve patient outcomes. From a publication standpoint, this topic warrants greater attention due to its clinical relevance, diagnostic complexity, and potential to influence evidence-based practice. We encourage continued scholarly focus on early diagnostic strategies, standardized assessment protocols, and outcome-driven research to advance understanding and management of these challenging lesions.

We hope this letter contributes to ongoing discussions and stimulates further research and publication efforts in this important area of dental practice.

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