

Case studies in oral radiology: Real-life diagnostic dilemmas and solutions.

Romeo Patini*

Department of Head, Neck and Sense Organs, Catholic University of Sacred Heart, Italy

Introduction

Oral radiology plays a crucial role in modern dentistry, aiding in the diagnosis and treatment planning of various dental and maxillofacial conditions. Through the use of radiographic techniques, clinicians can visualize the internal structures of the oral cavity and surrounding areas, helping them identify potential issues and develop appropriate treatment strategies. This article explores the significance of case studies in oral radiology, highlighting real-life diagnostic dilemmas and the innovative solutions that have emerged [1].

Oral radiology encompasses a wide range of imaging techniques, including intraoral and extraoral radiographs, cone-beam computed tomography (CBCT), and magnetic resonance imaging (MRI), among others. These tools provide valuable insights into dental and maxillofacial conditions such as caries, periodontal diseases, impacted teeth, cysts, tumors, and temporomandibular joint disorders. Case studies in oral radiology offer a unique perspective on the challenges faced by dental professionals in their daily practice. They showcase the complexity of diagnostic dilemmas and the critical role that radiographic findings play in reaching accurate conclusions [2].

One common diagnostic dilemma involves impacted wisdom teeth, also known as third molars. These teeth often fail to erupt properly, leading to pain, infection, and potential damage to adjacent structures. In this case, a young patient presented with severe pain and swelling in the posterior region of the mouth. Clinical examination alone could not determine the exact cause of the discomfort. Solution: Panoramic radiography revealed impacted wisdom teeth that were responsible for the symptoms. The imaging allowed for precise assessment of the teeth's positions and orientations, facilitating the development of a surgical plan for their removal [3].

Oral lesions can present a significant diagnostic challenge due to their diverse etiologies. Lesions may range from benign to malignant, making it imperative to differentiate between them accurately. A middle-aged patient presented with a non-healing ulcer in the oral cavity, raising concerns about potential malignancy. Solution: Combining panoramic radiography with cone-beam computed tomography (CBCT) provided a comprehensive view of the lesion's relationship with surrounding structures. These images guided the biopsy procedure, leading to a definitive diagnosis of a benign ulcerative lesion. Precise radiographic evaluation prevented unnecessary invasive procedures [4].

Temporomandibular joint disorders can manifest as a myriad of symptoms, including pain, clicking, and limited jaw movement. These conditions often necessitate an accurate diagnosis for appropriate treatment planning. A patient complained of chronic jaw pain and limited mouth opening. Solution: CBCT imaging of the TMJ allowed for a detailed evaluation of joint morphology and any potential pathology. The radiographic findings indicated internal derangements within the joint, leading to the development of a targeted treatment plan that included physical therapy and medication, effectively alleviating the patient's symptoms [5].

Conclusion

Case studies in oral radiology serve as valuable educational tools and contribute significantly to the advancement of diagnostic techniques in dentistry. These real-life scenarios showcase the pivotal role of radiography in resolving diagnostic dilemmas and developing effective treatment plans. Whether dealing with impacted wisdom teeth, oral lesions, or TMJ disorders, the integration of advanced imaging technologies empowers dental professionals to make informed decisions, ultimately improving patient care and outcomes. As the field of oral radiology continues to evolve, these case studies remind us of the critical importance of staying up-to-date with the latest advancements in imaging technology and diagnostic approaches in the dental profession.

Reference

1. Dewi DK, Surjadi K, Fitrah A. Radiology findings in neurocysticercosis: A case report. *Radiol Case Rep.* 2023;18(9):2960-5.
2. Chinnasamy NK, Venugopal DC, Sankarapandian S, et al. Oral lichen planus in a 7-year-old child: a rare case report. *Int J Clin Pediatr Dent.* 2020;13(1):91.
3. Badki SD, Lohe V, Bhowate R, et al. Conventional Radiology in Deep Seated Facial Hemangioma: A Case Report. *Cureus.* 2023;15(2).
4. Gupta S, Gupta S, Chaudhary C, et al. Novel treatment approach of oral submucous fibrosis in a 6-year-old girl: a case report. *Int J Clin Pediatr Dent.* 2021;14(4):575.
5. Hasan S, Mansoori S, Ansari MI, et al. Oral lichen planus in an 8-year-old child: A case report with a brief literature review. *J Oral Maxillofac Pathol.* 2020;24(1):S128.

*Correspondence to: Romeo Patini, Department of Head, Neck and Sense Organs, Catholic University of Sacred Heart, Italy. E-mail: romeop@cushitaly.edu.in

Received: 2-Sept-2023, Manuscript No. AAOMT-23-112598; Editor assigned: 5-Sept-2023, PreQC No. AAOMT-23-112598(PQ); Reviewed: 19-Sept-2023, QC No. AAOMT-23-112598; Revised: 23-Sept-2023, Manuscript No. AAOMT-23-112598(R); Published: 30-Sept-2023, DOI: 10.35841/aaomt - 6.5.170