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Research Article

# A RARE CASE OF RADICULAR CYST ASSOCIATED WITH DILACERATED AND IMPACTED MAXILLARY CENTRAL INCISOR

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## ABSTRACT

Radicular cysts are common odontogenic cysts that usually develop from the epithelial remnants of the dental pulp following pulp necrosis. However, the occurrence of a radicular cyst associated with a dilacerated and impacted maxillary central incisor is a rare and unique clinical finding. This case report presents a rare case of a radicular cyst in association with a dilacerated and impacted maxillary central incisor in a 35-year-old male patient. The patient presented with localized swelling and pain in the anterior maxillary region. Radiographic examination revealed the presence of an impacted maxillary central incisor with severe dilaceration and a radiolucent lesion at the apex. The lesion was diagnosed as a radicular cyst based on histopathological examination following surgical enucleation. The case highlights the importance of considering radicular cysts as a differential diagnosis in cases of impacted and dilacerated teeth and emphasizes the need for prompt diagnosis and appropriate management to prevent complications.

## KEYWORDS

Radicular cyst, dilaceration, impacted tooth, maxillary central incisor, odontogenic cyst.

## INTRODUCTION

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Radicular cysts are common odontogenic cysts that typically develop as a result of pulpal necrosis and inflammation. They are commonly associated with non-vital teeth and are frequently found in the periapical region. However, the occurrence of a radicular cyst in association with a dilacerated and impacted maxillary central incisor is an exceedingly rare finding.

Dilaceration refers to an abnormal angulation or curvature of the root, while tooth impaction refers to the failure of a tooth to erupt into its normal position. When these two conditions coincide with the development of a radicular cyst, it presents a unique clinical scenario that poses challenges in diagnosis and management.

The aim of this case report is to present a rare case of a radicular cyst associated with a dilacerated and impacted maxillary central incisor. The case highlights the atypical nature of this clinical presentation and underscores the importance of recognizing and managing such cases appropriately. By discussing the clinical features, radiographic findings, surgical intervention, and histopathological examination, this report aims to provide insights into the management of this rare and challenging condition.

Understanding the presentation, diagnosis, and management of this rare case will contribute to the existing knowledge base in the field of oral and maxillofacial pathology. It will also emphasize the importance of thorough clinical examination, radiographic assessment, and appropriate surgical intervention in similar clinical scenarios.

## METHOD

A thorough clinical examination and detailed patient history were conducted. The patient, a 35-year-old male, presented with localized swelling and pain in the anterior maxillary region. Radiographic examination, including periapical and panoramic radiographs, was performed to assess the impacted tooth and the presence of any associated pathology. The radiographs revealed an impacted maxillary central incisor with severe dilaceration and a radiolucent lesion at the apex. Based on the clinical and radiographic findings, a provisional diagnosis of a radicular cyst associated with the impacted tooth was made.

Surgical intervention was planned to address the condition. The surgical procedure involved local anesthesia and a mucoperiosteal flap elevation to gain access to the affected area. Careful dissection was performed to expose the impacted tooth and the associated radicular cyst. The cystic lesion was enucleated, and thorough irrigation of the area was done. The surgical site was then thoroughly cleaned and sutured.

The enucleated cystic lesion was sent for histopathological examination to confirm the

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diagnosis of a radicular cyst. Microscopic examination of the tissue samples was performed by a pathologist to assess the characteristic features of a radicular cyst, such as epithelial lining and inflammation.

Follow-up examinations were conducted to monitor the healing process and to evaluate any potential complications. Clinical and radiographic assessments were performed to ensure proper healing and resolution of the cystic lesion.

This case report follows ethical guidelines and maintains patient confidentiality. Informed consent was obtained from the patient for the publication of this case report and accompanying images.

The rare occurrence of a radicular cyst in association with a dilacerated and impacted maxillary central incisor emphasizes the need for prompt diagnosis and appropriate management to prevent complications and ensure favorable treatment outcomes.

## RESULTS

The surgical intervention was successful in enucleating the radicular cyst associated with the dilacerated and impacted maxillary central incisor. The histopathological examination confirmed the diagnosis of a radicular cyst based on the presence of an epithelial lining and inflammatory changes within the cystic tissue. The patient showed satisfactory healing and resolution of the cystic lesion during the follow-up period.

The radiographic examination revealed the presence of an impacted maxillary central incisor with severe dilaceration and a radiolucent lesion at the apex, which was consistent with the diagnosis of a radicular cyst. The surgical procedure involved local anesthesia, mucoperiosteal flap elevation, careful dissection, enucleation of the cystic lesion, thorough irrigation, and suturing of the surgical site.

During the post-operative period, the patient was monitored for any signs of infection, swelling, or discomfort. Follow-up examinations and radiographic assessments confirmed the proper healing and resolution of the radicular cyst. The patient reported relief from pain and the absence of any functional or esthetic concerns related to the impacted tooth.

## DISCUSSION

The occurrence of a radicular cyst in association with a dilacerated and impacted maxillary central incisor is a rare finding. This case highlights the unique clinical presentation and challenges in the management of such cases. The dilacerated and impacted tooth can contribute to the development of a radicular cyst due to the disruption of normal tooth eruption and the subsequent accumulation of inflammatory exudates within the root canal system. The presence of

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dilaceration further complicates the surgical access and extraction procedure.

The successful enucleation of the radicular cyst and the subsequent healing of the surgical site demonstrate the effectiveness of the surgical intervention in managing this rare case. The careful and meticulous surgical technique, along with post-operative monitoring, played a crucial role in ensuring favorable treatment outcomes.

## CONCLUSION

This case report presents a rare occurrence of a radicular cyst associated with a dilacerated and impacted maxillary central incisor. The successful surgical enucleation of the cyst and subsequent healing of the surgical site highlight the importance of prompt diagnosis and appropriate management in such cases. The unique clinical presentation of the dilacerated and impacted tooth requires careful surgical planning and execution to achieve successful outcomes. This case serves as a reminder for dental practitioners to consider radicular cysts as a potential differential diagnosis in cases of impacted and dilacerated teeth, emphasizing the importance of timely intervention to prevent complications and promote patient well-being.

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