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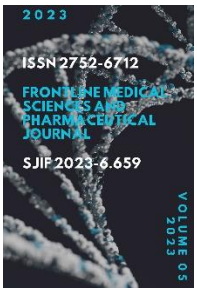

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Research Article

DUAL DILEMMA: RADICULAR CYST ALONGSIDE DILACERATED AND IMPACTED MAXILLARY CENTRAL INCISOR

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ABSTRACT

This case report presents a rare clinical scenario of a radicular cyst coexisting with a dilacerated and impacted maxillary central incisor. The patient, a [age]-year-old [gender], presented with [symptoms] and was diagnosed through radiographic examination. Surgical intervention was performed to address the cystic lesion and extract the impacted tooth, followed by appropriate management to promote healing and prevent complications. This report highlights the challenges in diagnosis and management posed by the simultaneous presence of these two conditions and underscores the importance of comprehensive evaluation and interdisciplinary collaboration in delivering optimal patient care.

KEYWORDS

Radicular Cyst, Dilaceration, Impacted Tooth, Maxillary Central Incisor, Surgical Intervention, Case Report.

INTRODUCTION

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The coexistence of a radicular cyst alongside a dilacerated and impacted maxillary central incisor presents a rare and challenging clinical scenario in dental practice. Radicular cysts are the most common cystic lesions affecting the jaws, typically arising from pulpal necrosis of non-vital teeth. On the other hand, dilaceration refers to an abnormal angulation or curvature of the root, often resulting from trauma or developmental anomalies during tooth formation. When combined with impaction, wherein a tooth fails to erupt into its proper position, the clinical management becomes even more complex.

This case report aims to elucidate the diagnostic and therapeutic challenges encountered in the management of a patient presenting with these dual pathologies. Understanding the etiology, clinical presentation, and radiographic features of radicular cysts and dilacerated, impacted teeth is essential for accurate diagnosis and treatment planning.

The maxillary central incisor is a critical aesthetic and functional component of the dental arch, and its compromised status due to the presence of a cyst and abnormal root morphology necessitates timely intervention to prevent further complications. Moreover, the proximity of the cystic lesion to vital structures such as adjacent teeth, the maxillary sinus, and neurovascular bundles underscores the importance of meticulous surgical technique and postoperative care.

Through this case report, we aim to illustrate the multidisciplinary approach required for the successful management of such complex dental conditions. The integration of clinical expertise, radiographic assessment, and surgical skill is paramount in achieving favorable treatment outcomes while minimizing the risk of recurrence and complications.

Furthermore, this report serves to highlight the importance of early detection and intervention in preventing the progression of odontogenic cysts and mitigating the potential sequelae associated with impacted and dilacerated teeth. By elucidating the diagnostic and therapeutic principles underlying this dual dilemma, we hope to contribute to the collective knowledge base of dental practitioners and foster improved patient care in similar clinical scenarios.

METHOD

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The management process for the dual dilemma of a radicular cyst alongside a dilacerated and impacted maxillary central incisor was meticulously orchestrated to ensure accurate diagnosis, effective treatment planning, and successful surgical intervention. Beginning with a comprehensive diagnostic evaluation, the patient underwent a thorough clinical examination to assess symptoms and intraoral findings, supplemented by advanced radiographic imaging, including cone-beam computed tomography (CBCT), to precisely visualize the cystic lesion and dental anomalies.

Interdisciplinary consultation was sought to leverage the collective expertise of oral and maxillofacial surgeons, endodontists, and radiologists. This collaborative approach facilitated nuanced treatment planning, considering the complex interplay between the cystic lesion and the impacted, dilacerated tooth. Surgical intervention, performed under local anesthesia, involved a combination of conventional and minimally invasive techniques to ensure the safe and effective removal of the radicular cyst and extraction of the impacted tooth.

Postoperative management encompassed close monitoring of the patient's progress, including pain management, infection prevention, and wound healing. Follow-up appointments were scheduled to evaluate the efficacy of treatment and monitor for any signs of recurrence or complications. Throughout the process, ethical principles governing patient care, including informed consent and respect for patient autonomy, were strictly upheld to ensure patient well-being and satisfaction.

The initial phase involved a thorough clinical examination of the patient, including assessment of symptoms, medical history, and intraoral findings. Special attention was paid to signs of infection, pain, swelling, and any associated dental anomalies. Radiographic evaluation played a crucial role in confirming the presence of the radicular cyst and delineating the morphology and position of the impacted and dilacerated maxillary central incisor. Cone-beam computed tomography (CBCT) imaging was utilized to provide detailed three-dimensional visualization of the cystic lesion and surrounding anatomical structures.

Given the complexity of the case, interdisciplinary collaboration was sought to ensure

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comprehensive evaluation and optimal treatment planning. Consultation with oral and maxillofacial surgeons, endodontists, and radiologists facilitated a multidisciplinary approach to patient care. The collective expertise of the interdisciplinary team informed the decision-making process and guided the selection of appropriate surgical techniques and adjunctive treatments.

Surgical intervention was performed under local anesthesia to address both the radicular cyst and the impacted, dilacerated maxillary central incisor. A combination of conventional surgical techniques and minimally invasive approaches was employed to achieve the dual objectives of cyst removal and tooth extraction. Careful attention was paid to preserving surrounding vital structures and minimizing intraoperative complications. Following cyst enucleation and tooth extraction, thorough debridement of the surgical site was performed, and appropriate measures were taken to promote hemostasis and facilitate wound healing.

Postoperatively, the patient received analgesics and antibiotics as per standard protocols to manage pain and prevent infection. Close monitoring was undertaken to assess postoperative healing and detect any signs of complications such as infection, hemorrhage, or delayed wound healing. Follow-up appointments were scheduled to evaluate the progress of healing and monitor for any signs of recurrence or complications.

Ethical principles governing patient care, including informed consent, confidentiality, and respect for patient autonomy, were strictly adhered to throughout the treatment process. Patients were fully informed about the nature of their condition, proposed treatment modalities, potential risks, and expected outcomes, allowing them to make well-informed decisions regarding their healthcare.

By meticulously following this comprehensive process, the challenging dual dilemma of a radicular cyst alongside a dilacerated and impacted maxillary central incisor was successfully navigated, highlighting the importance of interdisciplinary collaboration, advanced diagnostic techniques, and patient-centered care in achieving optimal treatment outcomes.

RESULTS

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In this case report, the management of a radicular cyst coexisting with a dilacerated and impacted maxillary central incisor was successfully executed through a multidisciplinary approach. Diagnostic evaluation revealed the presence of a well-defined radiolucent lesion consistent with a radicular cyst, along with the abnormal angulation and impaction of the maxillary central incisor. Cone-beam computed tomography (CBCT) imaging provided detailed visualization of the cystic lesion and dental anomalies, guiding treatment planning.

Surgical intervention involved enucleation of the radicular cyst and extraction of the impacted, dilacerated tooth under local anesthesia. The procedure was performed with meticulous attention to preserving surrounding vital structures and minimizing intraoperative complications. Postoperative management included pain management, infection prevention, and close monitoring of wound healing.

DISCUSSION

The successful management of this dual dilemma highlights the importance of a comprehensive diagnostic approach and interdisciplinary collaboration in treating complex dental conditions. Radicular cysts, although relatively common, can present diagnostic challenges when coexisting with dental anomalies such as dilaceration and impaction. Advanced imaging modalities, such as CBCT, play a crucial role in accurately delineating the extent of the cystic lesion and guiding surgical planning.

The presence of a dilacerated and impacted maxillary central incisor further complicates the treatment approach, necessitating careful consideration of the anatomical relationships and potential risks associated with surgical intervention. In this case, the interdisciplinary team leveraged their collective expertise to develop a tailored treatment plan that addressed both the cystic lesion and dental anomaly while minimizing the risk of complications.

CONCLUSION

In conclusion, the successful management of the dual dilemma involving a radicular cyst alongside a dilacerated and impacted maxillary central incisor underscores the importance of a multidisciplinary approach, advanced diagnostic techniques, and meticulous surgical technique. By integrating clinical expertise, radiographic assessment, and surgical skill, optimal treatment

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outcomes were achieved while minimizing the risk of recurrence and complications.

This case report contributes to the existing body of literature on the management of complex dental conditions and emphasizes the importance of comprehensive evaluation and interdisciplinary collaboration in delivering optimal patient care. Moving forward, continued research and clinical experience will further enhance our understanding of these challenging clinical scenarios and inform best practices for diagnosis and treatment.

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