CASE REPORT

Case report: radicular cyst

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Received: 22 February, 2023 Accepted: 26 March, 2023

ABSTRACT
Radicular Cyst is odontogenic cyst of inflammatory origin. This is most commonly associated with root apex of maxillary permanent incisors followed by premolars and molars while seldom seen in deciduous teeth. This exhibits predilection for males more than the females for age group of 30-50 years.
Dental caries or trauma cause chronic inflammation of pulp which often travels to forms a periapical inflammation results in stimulation of cell rests of Malassez found in apical periodontal ligament leading to formation of periapical granuloma. This periapical granuloma which may be sterile or secondarily infected, can transform to periapical cyst due to lack of nutritional supply.
Histologically, the epithelial lining is recognized as stratified squamous epithelium present in arcading pattern. Peculiar shaped hyaline bodies aka Rushton bodies are found within the cystic epithelium lining which are amorphous, eosinophilic and typically described as lady's hairpin shaped structures.
Treatment of such cases involves conventional as well as surgical approach.
Keywords: Odontogenic cyst, Radicular cyst, non-vital tooth.

INTRODUCTION

Radicular Cyst is the most common odontogenic cyst involving 52% of cystic jaws. This is the cyst of non-vital tooth. Radicular cyst is usually left unnoticed due to its asymptomatic nature unless it is detected accidentally with routine radiographic examination hence it depicts a quiescent character.[1,2] This is most commonly associated with root apex maxillary permanent incisors followed by premolars and molars while seldom seen in deciduous teeth.[3,4] This exhibits predilection for males more than the females for age group of 30-50 years.

CASE REPORT

Fig 1: Facial Profile (a. front ; b. lateral)

An 18-year-old female patient reported to department of Oral and Maxillofacial Surgery, Baba Jaswant Singh Dental College and Research Institute, Ludhiana with presenting complaint of pain and swelling of face in relation to lower left tooth region for past 15 days. History dates back to 2 years when first experience dull, intermittent pain in lower left posterior region of jaw. The pain aggravated on mastication. Due to persistence of pain, she visited a private dental practitioner and got root canal treatment done of lower left molar. Following this procedure, she was asymptomatic but from last 15 days she encountered a swelling in the same region. Patient also complains of pain which was sharp, continuous, radiating towards head and does not get relieved by medications.

Intraoral examinations revealed that left mandibular first molar was carious with respect to distal aspect. The tenderness on percussion was present with no obliteration of buccal vestibule. On palpitation, the swelling was slightly hard, non-tender, non-fluctuant.

Fig 2: Intraoral view

Upon radiographic examination, a definite unilocular radiolucency with sclerotic borders was found extending from roots of left mandibular second premolar to mesial root of second molar of same region leaving about 1mm of sound bone at the inferior border of mandible. A major portion of mandibular left first molar was seen in the cystic cavity as radiopaque foreign body. Also, the mandibular canal was obliterated inferiorly.

Fig 3: IOPA

Fig 4: OPG

Fine Needle Aspiration Cytology exhibits a slightly creamy fluid mixed blood. Therefore, based on patient's clinical findings, radiographic examinations and FNAC report provisional diagnosis of unilateral mandibular radicular cyst was made.

Fig 5: FNAC

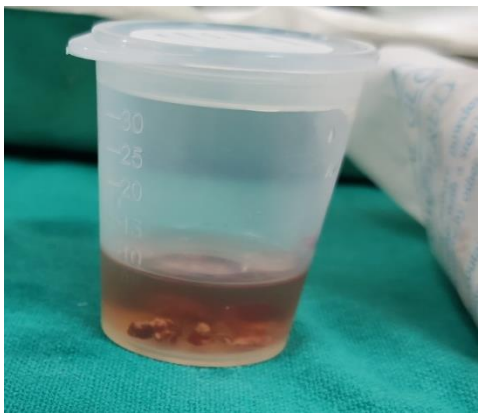
Fig 6: Intraoral view- Crevicular Incision

The patient got the treatment under local anesthesia in which a crevicular incision was made from distal side of first premolar up to mid of second molar of the jaw. Later, the mucoperiosteal flap were raised followed by extraction of the offending tooth and enucleation of the cyst. After the curettage and debridement of the cyst hemostasis was obtained by repositioning of the flap and primary closure.

a

b

c



d

Fig 7: a. Post Extraction; b. Post Enucleation; c. Extracted Tooth; d. Enucleated cyst

According to the histopathological reports, the macroscopic appearance reveals multiple soft tissue specimens of approximately 3 to 5 mm each in brownish color and soft consistency. Microscopically, highly inflamed denuded cystic stroma was seen with very few twigs of stratified squamous epithelium. The stroma shows collagen fibers with intense inflammatory infiltrate showing acute as well as chronic inflammatory cells mainly PMNLs, lymphocytes and plasma cells. Foamy macrophages and many proliferating blood vessels are seen. Few areas show periosteal bony trabeculae.

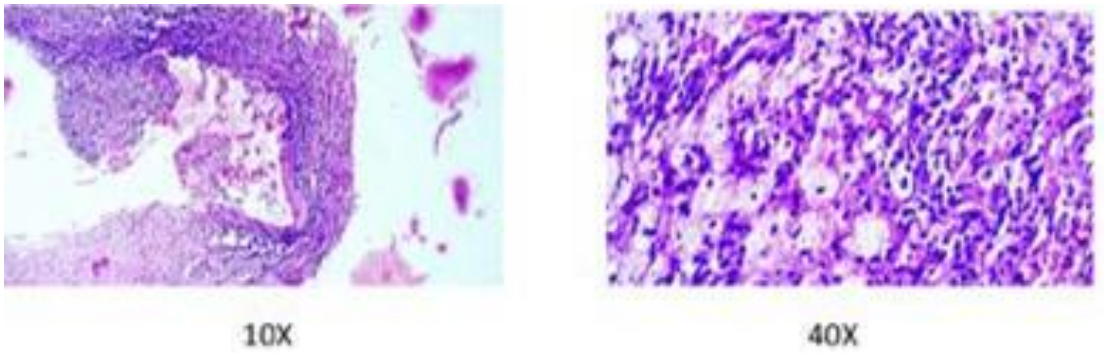


Fig 8: Histopath Image

DISCUSSION

Radicular cyst is most common type of odontogenic cyst of inflammatory origin which is also known as Periapical Cyst, Root end Cyst, Apical Periodontal Cyst, Dental Cyst. The etiology of this cyst includes dental trauma and dental caries. In our present case, the main cause was the carious lesion of the tooth.[5,6]

Prevalence of the radicular cysts in maxilla is 60% as compared to mandible along with greater association with anterior region but in the current scenario, the mandibular posterior tooth is involved.[6,7]

This is often seen in males with age group of 40-50 years however in our case, a young female of age 20 years has been detected by the radicular cyst.[8,9]

Radicular cysts grow slowly and lead to mobility, root resorption and displacement of teeth. Once infected they may lead to pain and swelling and patients become aware of the problem.In our case no mobility, root resorption or displacement of teeth was seen despite the presence of a large chronic infected cystic lesion involving roots of adjacent teeth along with a mild swelling resulting in facial asymmetry .[9.10]

Radiographical features reveal a well defined unilocular radiolucency involving roots of culprit tooth as well as the adjacent teeth with hyperostotic borders .[10]

CONCLUSION

Periapical lesions and cyst-like lesions can be initially managed by nonsurgical endodontic treatment. In a few cases, surgical management might be necessary for a good prognosis. Better knowledge about microorganisms will helps in treatment and oral maxillofacial surgery practices. A follow-up of 1–2 years after treatment has to be done.

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