



CASE REPORT

ENUCLEATION OF RESIDUAL CYST: A CASE REPORT

***¹Dr. Shweta Ajit Kolhatkar, ²Dr. Nilima Rajhans, ³Dr. Nikesh Moolya, ⁴Dr. Nilkanth Mhaske, ⁵Dr. Dhanesh Sabale, ⁵Dr. Tejas Patil and ⁶Dr Prerna Gaikwad**

¹P.G student, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Marashtra

²Professor, H.O.D, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Maharashtra

³Professor, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Maharashtra

⁴Reader, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Maharashtra

⁵Senior Lecturer, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Maharashtra

⁶P. G student, Department of Periodontology, Y.C.M.M & R.D.F's Dental College, Ahmednagar, Maharashtra

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ABSTRACT

The residual cyst is a type of inflammatory odontogenic cystic lesion, caused by an inflammatory periapical cyst that persists retained within the bone after extraction of the affected tooth involved, or arises after incomplete removal of an original cyst, motivating the persistence of a radicular cyst. Also known as asymptomatic inflammatory odontogenic cyst, these cysts may rise from inflammatory fibrous and granulation tissue at the apex/periapical region of a tooth not curetted at the time of dental extraction. In this case report, a 40 year old female patient presented with a painless swelling of approximately 2x2 cm in size, on the mandibular left back region since one month. Clinical signs and symptoms suggested of residual cyst. Presentation, diagnosis and management of the cyst is discussed.

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INTRODUCTION

A cyst is defined as a pathological cavity lined with epithelium and odontogenic or non-odontogenic origin, showing fluid or semi-solid contents inside (Canassa and Pavan, 2014). They are further classified as developmental cysts and inflammatory cysts (Residual Cyst, 2014). Inflammatory cysts are further classified as radicular cyst / periapical cyst, lateral periodontal cyst and residual cyst. Radicular cysts are further categorized as: those with cystic cavity completely filled by epithelial lining (true cysts) and those whose epithelium lining the cystic cavity is interrupted by the root apex, which penetrates into the lumen (cyst bay) (Nair, 2006).

The inflammatory periapical cyst originates from the epithelium of periapical granuloma, which is commonly derived from the remnants of Hertwig's epithelial root sheath. The residual cyst has the same origin of the inflammatory periapical cyst, i.e., stems, after extraction of the involved tooth without curettage, by proliferation of epithelial remnants of Hertwig's sheath which is stimulated by endodontic infection (Canassa and Pavan, 2014 and Domingues, 2007). Sometimes the teeth which need to be extracted may have a radicular cyst present in its periapex and this may go undetected, leading to the extraction of the teeth without treatment for the radicular cyst present in the bone causing the formation and growth of a residual cyst. The residual cysts are usually asymptomatic and most of the times detected only on clinical examination or on a routine radiographic examination of an edentulous area. The residual cyst may arise from a

*Corresponding author: Dr. Shweta Ajit Kolhatkar

P.G student, Department of Periodontology, Y.C.M.M & R.D.F'S Dental College and Hospital, Ahmednagar, Marashtra

dental granuloma that may be present after an extraction (Deepthi Adappa, 2014).

Case Report

A 40 years old female patient came to the department of periodontology of the concerned college in Maharashtra with the chief complaint of swelling, discharge and loose teeth in lower left back region of jaw since 1 month.



Figure 1. Pre-operative Orthopantomograph (OPG)



Figure 2. Intra-operative image of the cyst

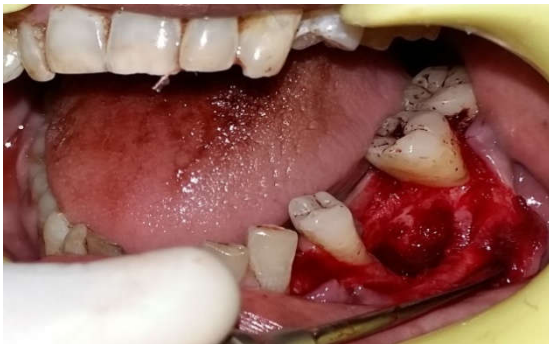


Figure 3. Intra-operative image after enucleation of cyst



Figure 4 & 5. Root pieces and enucleated cyst

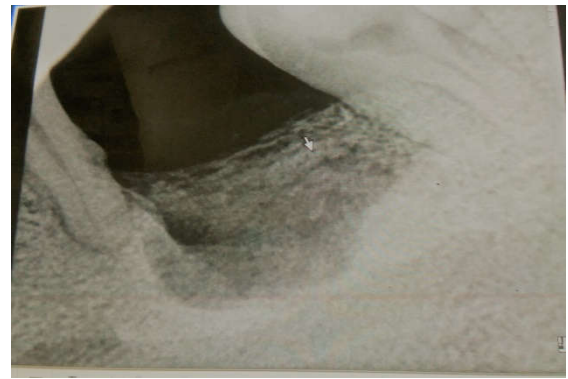


Figure 6. 1 Month Post-operative radio visuography image

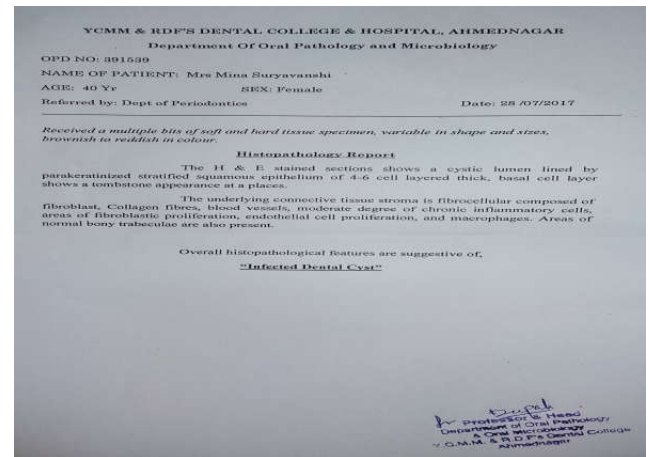


Figure 7. Image of histopathology report

The patient also gave history of extraction of grossly carious tooth 1 month back. On intraoral examination there was pus discharge seen on mandibular left posterior 36 region and Grade I mobility with 35. 36 was missing with healed socket. There was a swelling 0.5cm away from the alveolar ridge which was not well defined. On palpation it was soft in consistency and was tender. The overlying mucosa was smooth elevated with pus discharge. Orthopantomograph (OPG) was taken for the patient which revealed a well-defined radiolucency 2cm×2cm in size in 36 edentulous region within which 2 root pieces were enclosed. It was in the close proximity of mandibular canal. The clinical and radiographic examination was suggestive of residual cyst as provisional diagnosis which was further enucleated and sent for histopathological examination. The surgical enucleation of the cyst was carried out under local anesthesia and strict asepsis through an intraoral approach. The histopathological examination reveals a H & E section of a cystic lumen lined by parakeratinized stratified squamous epithelium 4-6 layered. The basal cell layer shows tombstone appearance at places and is suggestive of infected Dental cyst

DISCUSSION

Residual cyst occurs due to incomplete surgical removal of a radicular or other inflammatory cyst. The tooth is extracted with the periapical pathological area left behind in the bone which may lead to the formation of residual dental cyst.⁵ The radiographic feature is a well-defined unilocular radiolucent structure at the edentulous area of a previous extracted tooth site (Oehlers, 1970). A detailed study of clinical, histopathological and radiological findings is important as

there are numerous cysts that are similar clinically and radiographically. Patients having residual cyst are usually asymptomatic and commonly diagnosed only after a routine clinical and radiographic examination.⁷In the present case, the patient noticed the swelling and pus discharge so she visited the dental department. Residual cysts come under inflammatory cysts and are usually present periapically and remain after the extraction of associated tooth. The patient had a history of extraction in the area of the cyst 1 month back in the present case as well. The mandibular canal, teeth and other anatomical structures can be deviated due to the slow growing cyst over time. There was destruction of the buccal cortical plate partly and mobility of 35 was seen in the current case. Type of treatment that can be conducted for the residual cyst is either marsupialisation or enucleation depending on the size of the cyst and its proximity to important anatomical structures. In the present case due to the smaller size enucleation of the cyst was carried out. As the cortex of the lesion was partly intact, there was complete bone repair, hence no bone grafting was required to rebuild the post-op bone cavity.

Conclusion

Residual cyst is an uncommon oral manifestation which is often missed by the patient as it is asymptomatic, unless infected. A thorough case history, oral, radiographic & histopathological examination is a must to provide an adequate diagnosis.

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