

Residual Cyst: A Case Report

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Abstract

Residual cyst are inflammatory odontogenic cysts that are usually asymptomatic and present on a post-extraction site. They are incidentally detected on imaging, to expansion of affected region to pain and drainage. 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 36 year old female patient presented with a painless swelling of approximately 2x2 cms in size, on the maxillary right front region since two months. Clinical signs and symptoms suggested of residual cyst. Presentation, diagnosis and management of the cyst is discussed.

Keyword: Adult, Asymptomatic, Edentulous, Female, Jaw Cyst, Residual Cyst, Swelling.

Introduction:

A cyst contains fluid or semisolid material and is lined by an epithelium-lined sac. The epithelial cells first proliferate and later undergoes degeneration and liquefaction, leading to the formation of a cyst. There is equal pressure on the walls of the cyst from inside which is applied by the liquefied material. The cyst grow spherical in shape due to this reason, but in some cases the shape changes due to unequal resistance produced by the surrounding teeth. This may also lead to displacement of teeth and sometimes even the cortical bone by the pressure produced during the expansion of the cyst.

Cysts are broadly classified as odontogenic cysts and non-odontogenic cysts. Odontogenic cysts originates from the epithelium of the developing teeth. The epithelium arises from the enamel organ, the cell rests of Malassez, the reduced enamel epithelium or the remnants of the dental lamina. The epithelial rests can also cause the formation of a residual cyst after the extraction of a tooth. A residual cyst arises from the necrotic pulp of an extracted tooth from the remnants of the epithelium which

proliferates by an inflammatory process that is no longer present.¹ In some cases the teeth which needs 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 most common cystic lesions in the maxilla and mandible are the inflammatory cysts, which consists of 50 to 75% of all oral cysts.² The most common osseous-destructive lesions of the maxilla and mandible are the residual cysts which basically belong to the inflammatory group of odontogenic cysts.³ The residual cyst 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 dental granuloma that may be present after an extraction.⁴

The age at which the cyst usually occurs is in older individuals with an average age of 50 years. The radiographic features usually shows circular radiolucency lined by a radiopaque border which will be present in an edentulous area. A residual cyst is

similar to a primordial cyst. But the difference is a primordial cyst arises instead of a tooth and a residual cyst arises in relation of an extracted tooth.

In the present case, a 36 year old female patient presented with a painless swelling on the labial aspect of the maxillary right region since two months.

Case Report:

A 36 year old male patient reported to the Department of Oral Medicine and Radiology, Yenepoya Dental College and Hospital, Mangalore, India, with a chief complaint of slowly progressing painless swelling on the maxillary right front region since 2 months duration. According to the patient swelling was continuous and remained same in size. There was no pus or bleeding discharge. Patient had a history of extraction in the same area about ten years ago.

On examination patient was of average height and moderately nourished female. A general survey of the patient did not reveal any abnormality of significance. On extra-oral examination there was no significant findings. There was no facial asymmetry. Intraoral examination revealed missing first permanent canine and 1st premolar in the right maxillary region with healed extraction socket and normal overlying alveolar mucosa. The swelling was localised and present 0.5 cms away from the alveolar ridge of the missing canine area and 1st premolar area extending superiorly upto the alveolar mucosa. Swelling appeared to be approximately 2x2 cms in size, circular in shape and well-defined. On palpation it was soft, fluctuant and non-tender. The overlying mucosa was smooth, elevated with no pus or bleeding discharge (**Figure No. 1**).

Residual cyst was the provisional diagnosis after studying the case history and clinical findings. Odontogenic keratocyst, cystic ameloblastoma, cystic degeneration of adenomatoid odontogenic tumor, and a cyst arising from the maxillary antrum are the differential diagnosis.

Intraoral periapical radiograph of maxillary right teeth region revealed missing permanent canine and first premolar with a partial radiolucency superimposed on the edentulous region. The radiolucency was oval shaped and well defined with a

sclerotic border measuring approximately 2x2cms. There was no evidence of root stump, or any abnormality in relation to the floor of the maxillary sinus.

Occlusal radiograph showed a well-defined, unilocular, oval shaped radiolucency measuring 5x3cms present on the palatal aspect of the right maxilla extending anteriorly from the periapical root area of lateral incisor and posteriorly upto the distal aspect of second premolar and laterally 2 mm away from the midline of the palate surrounded by a thin, discontinuous cortical margin (**Figure No. 2**).

Panoramic radiograph demonstrated a normal complement of teeth with respect to maxillary and mandibular arch with multiple missing teeth in relation to right maxillary first molar, canine, lateral incisor and maxillary left first premolar, first molar and left mandibular first, second and third molar and right mandibular first and second molar. Unilocular radiolucency with haziness surrounded by discontinuous cortication present on the right maxillary antrum region. It was oval in shape, approximately around 5x3 cm in size, extending antero-posteriorly periapical root area of lateral incisor upto the distal aspect of second premolar and laterally 2 mm away from the midline of the palate. Superiorly, it was not extended to displace teeth or floor of the maxillary sinus.

A fine-needle aspiration revealed a dark-red-colored, blood-tinged, and highly viscous fluid (**Figure No. 3**). Cytological examination of the aspirate was suggestive of blood containing cystic fluid. The histopathological features stained with H and E showed sheets of RBC's with few inflammatory cells in an eosinophilic background confirmed the diagnosis of an established residual cyst.

The surgical enucleation of the cyst was carried out under local anesthesia and strict asepsis through an intraoral approach. The sectioned gross specimen revealed yellowish, solidified pus like material surrounded by a thin-layered soft capsule (**Figure No. 4**). Postsurgical period was uneventful. (**Figure No. 5**).



Figure No. 1: Intra-oral Swelling Present on the Labial Aspect of the Right Maxillary Region



Figure No. 2: Occlusal View



Figure No. 3: Aspirated Red Colour, Viscous Fluid



Figure No. 4: Sectioned Gross Specimen with a Soft Capsule



Figure No. 4: Postsurgical Period was Uneventful

Discussion:

Residual cyst occurs due to incomplete surgical removal of a radicular or other inflammatory cyst. The histological and clinical features of the radicular cyst are very similar to those of the residual cyst except for the site of the extracted teeth. Initially the tooth is extracted with the periapical pathological area, if any, is left behind in the bone which may lead to the formation of residual dental cyst over time. After a few years, the cyst size may either resolve, remain the same size or increase in size.⁵

The radiographic feature is a well-defined unilocular radiolucent structure of varying size at the edentulous area of a previous extracted tooth site.⁶ A detailed study of clinical, histopathological and radiological findings are important as there are numerous cysts that are similar clinically and radiographically.⁷

Approximately 10% of odontogenic cysts are most commonly asymptomatic.⁸ Its very rare when patients have voluntarily come with a sole complaint of the residual cyst because they are usually asymptomatic and commonly diagnosed after a routine clinical and radiographic examination. In the present case, even though the patient had noticed the lump before, she finally visited the dental department only after the lump started interfering with the denture wearing.

Residual cysts comes 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, in the present case as well. The mandibular canal, teeth and the floor of the maxillary sinus and other anatomical structures can be deviated due to the slow growing cyst over time. However no destruction of bony cortex was seen in the current case.

Types of treatment that can be conducted for the residual cyst is either marsupialisation or enucleation depending on the size of the cyst. In the case presented

here, due to the smaller size and intact cortical lining, enucleation of the cyst was performed. Also if the cortex of the lesion is intact, usually there will be 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 & cytological examination is a must to provide an adequate diagnosis.

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