



Atypical Presentation of Dental Cyst with Infratemporal Extension

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Abstract

Dental cysts are one of the most common developmental types of odontogenic cysts occurring in the oral cavity and often manifest as incidental findings on dental radiographs and/or as asymptomatic swellings. These cysts develop from remnants of reduced enamel epithelium around the crown of an unerupted or impacted tooth, attached at the level of the cemento-enamel junction. Most are considered developmental. However, in young clients they may be inflammatory in origin, the result of caries in the primary dentition. In this report, a case of dental cyst in a 17-year-old patient and its treatment is presented. The cyst was totally enucleated and communication made with inferior meatus for future drainage. There was no recurrence observed after 18 months follow-up.

Keywords: Child; Dental Cyst; Enucleation; Unerupted Tooth

Introduction

The dental cysts are odontogenic cysts that are most frequently found in individuals in the age group between 20 and 40 years. Such cysts remain initially completely asymptomatic unless when infected and can be discovered only on routine radiographic examination [1,2]. Single dentigerous cysts are very common odontogenic cysts after radicular cysts. These cysts have predilection for mandibular third molar most commonly followed by maxillary canine [3,4]. Apart from developmental cause, other factors playing role in etiology include inflammation or supernumerary teeth [4,5]. These cysts can produce asymmetries,

nerve alterations by compression, move teeth and even become malignant ameloblastoma, mucoepidermoid, or epidermoid carcinoma. This calls for its prompt management [6,7].

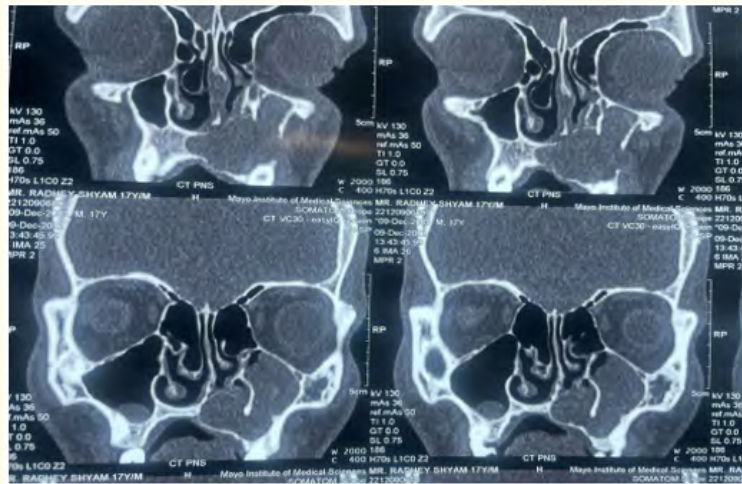
Since the cyst may increase in size, the indicated treatment is surgical removal of the lesion and involved teeth, or decompression to salvage the involved teeth [3,8-11] but the standard treatment involves surgical enucleation and extraction of the cyst-associated impacted or unerupted tooth. There are also reports of clinically diagnosed dentigerous cysts, which had completely resolved without surgical intervention [12]. Herein, we present a rare case report of a dental cyst in the 17-year-old male. This rare case is reported because of its unusual extension into the infratemporal fossa.

Case Report

A 17-year-old male patient presented with complaints of a swelling in hard palate since 9 months which was gradually progressive in nature, it was not associated with any discharge or pain. Patient got relieved on taking medications. Later a swelling on left side of face appeared which was again gradually progressive with no pain or tenderness or discharge. On examination both the

swellings were non tender, no discharge was present, non mobile. The increasing nature of the swelling coupled with cosmetic deformity made the patient to consult a doctor.

Patient was investigated with a CT scan of the local area which revealed a cystic lesion extending in the nose, Nasolabial area, maxilla, extending backwards towards Infratemporal fossa and downwards thinning the palate.



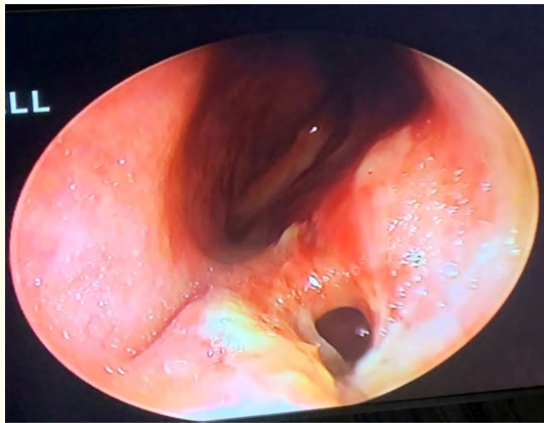
Picture 1: The Dental cyst – extending in the nose, Nasolabial area, maxilla, extending backwards towards Infratemporal fossa and downwards thinning the palate.

To confirm the diagnosis the cyst was aspirated from which the fluid was removed and was sent for Cytopathology which showed features consistent with inflamed Nasolabial cyst. FNAC showed soft tissue pathology. Patient was operated in General anesthesia with a sub labial incision, the cyst was exposed completely in all directions, the anterior wall of the cyst was excised partially to enter the cyst, and all the cyst fluid was removed. Later the cyst wall was completely excised from all directions including Infratemporal extension. Cavity was irrigated with antibiotic solution.

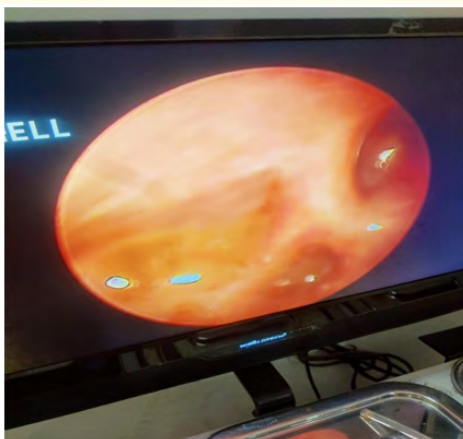
An opening was created in the inferior meatus anteriorly to marsupialise the cavity to drain any further collections. The anterior wall of the maxilla was reshaped in a manner so that bilateral symmetry of the face was restored.



Picture 2: Per operative endoscopic view of the inside of the cyst cavity showing extensions.



Picture 3: Small opening made in the Inferior meatus for marsupialisation.



Picture 4: 3 weeks postoperative endoscopic view of the inside of the cyst cavity showing no collection.



Picture 5: Post operative picture of the patient showing no Swelling.

The cavity was later packed with a gauge and sub labial incision was stitched with catgut and pressure bandage was applied to prevent facial odema. The histopathological study of the soft tissue post surgery showed Dental cyst.

Discussion

As per the literature in dental field, causes for a palatal swelling includes allergic disorder, infections, cyst, tumors or any other mucosal or bony pathology [13].

Dental cysts (DCs) have been reported extensively in the literature. The most common etiology for these cyst is considered developmental theories.

- Intra-follicular Theory- this is due to accumulation of fluid between the epithelial surfaces of crown.
- Enamel hypoplasia theory- in this the cyst develop because of degeneration of the reticulum.
- Main theory- in this the cyst develops because of pressure exerted by the impacted tooth on follicle [14]

There are two type of cyst reported- inflammatory and non inflammatory [15].

Dentigerous cysts are frequently identified on Orthopantomogram [16]. A cystic expansile pericoronal lesion containing the crown of an impacted tooth projecting into cystic cavity is considered pathognomonic and often no further imaging is required. CT and MRI may give additional information and help in distinguishing this entity from other cystic lesions of the mandible and maxilla. Common Radiological feature of these cyst includes radiolucent unilocular structure with sclerosed border surrounding the crown of teeth [17]. Based of radiology, they have 3 forms- central, lateral and circumferential. Very large dental cyst may be multilocular this posing a challenge in diagnosis. Neglected Maxillary lesions may projet superiorly into the paranasal sinuses or nasal cavity as was seen in our case however Infratemporal extension has not yet been reported to the best of authors knowledge. The MRI feartures of these cysts include - T1: low signal, similar to water/CS; T2: high signal, similar to water/CSF/T1 C+ (Gd): no solid component or enhancement, except for potentially a thin peripheral rim of enhancement [18]. MRI was not done in our case.

Mostly these cysts are single lesions, but rarely bilateral and multiple cysts have been reported in literature [17]. Conditions

which are to be kept in mind while treating these cases include Odontogenic keratocyst, primordial cyst, tumors such as ameloblastoma, odontomas [19].

Histologically the cyst contains multilayer of smooth non keratinized cells.

Management option for a dental cyst includes either marsupialisation or enucleation. Marsupialisation is suturing of the cyst lining with the mucosa making it a pouch. It is conservative method advocated mainly for young patients and if large cyst extension as was seen in our case. Disadvantage of this method is leaving the pathological tissue behind which may lead to future conversion into malignant forms such as ameloblastoma, squamous cell or mucoepidermoid carcinoma [20,21]. Enucleation is complete removal of the cyst capsule. It is the treatment of choice for small cyst [22].

In our case, dual management was undertaken seeing the severe extension complete cyst was removed along with marsupializing the cavity by creating a communication with the inferior meatus for future drainage. Enucleating large cysts may lead to complications, may get infected [23].

Conclusion

Dental cysts are one of the most common developmental types of Odontogenic cysts involving the jaws, they are slowly growing and expansile in nature and are often asymptomatic and detected in routine radiographs because of which they are diagnosed late and often lead to expansion of the bone involved. Ideally OPG is sufficient to diagnose these lesions but in case of doubt CT/MRI must be done. Usually FNAC or diagnostic tap is not necessary but can be done in case of doubt. Excision remains the standard line of treatment but marsupialisation may be done in extensive cases or in case when complete excision remains doubtful.

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