Dentigerous Cyst Occurring in Maxilla Associated with Supernumerary Tooth Showing Cholesterol Clefts-A Case Report


Abstract

Dentigerous cyst is the most prevalent type of odontogenic cyst and is associated with crown of an unerupted or developing tooth, and accounts for more than 24% of jaw cysts, usually develops around crown of mandibular third molar, maxillary canine, followed by mandibular premolars, but rarely involve supernumerary teeth and central incisors. Here, we present an interesting case of dentigerous cyst in a 14-year old boy, which developed around an impacted supernumerary tooth. Histological examination revealed a cyst with epithelial lining resembling reduced enamel epithelium and presence of cholesterol clefts in cystic wall.

Key Words: Dentigerous Cysts, Odontogenic Cyst, Supernumerary tooth, Cholesterol Clefts etc.

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Introduction:

Dentigerous cyst is the most prevalent type of odontogenic cysts and is associated with crown of an unerupted tooth, and accounts for more than 24% of jaw cysts, the cyst mainly involves crown of impacted mandibular third molar, followed by maxillary canines, mandibular premolars, rarely supernumerary teeth and central incisors. It may occur at any age group but the greatest incidence is in second and third decade with slight sex predilection for Males. Supernumerary teeth can occur anywhere in dental arches but most commonly are found in the pre-maxilla. Supernumerary tooth develops from an extra tooth bud arising from the dental lamina near the permanent tooth bud, or possibly from splitting of the permanent tooth bud itself. Several complications may arise because of them like impaction of central incisors, malpose of central incisors; midline diastema, ectopic eruption into floor of the nasal cavity, and formation of primordial or follicular cyst with significant destruction of bone with resorption of roots and on of adjacent teeth. a further complication may be pulpitis and infection due to communication with the oral cavity. The literature is replete with articles on dentigerous cyst and on the supernumerary teeth as separate entities, but relatively few detailed reports on the association of these two developmental disturbances. Here we present a case of dentigerous cyst occurring in anterior maxilla associated with one supernumerary tooth long with an another extra follicular dilacerated supernumerary tooth.

Case report:

A 14-year old boy reported to the department of oral and maxillo-facial pathology with a chief complaint of painless swelling in the upper jaw from past one year duration. The intra oral examination revealed presence of a solitary, hard and well defined swelling in the in the right maxillary central incisors region. There was no history of trauma and Vitality of teeth associated was intact. The occlusal radiograph of the lesion exhibited well defined radiolucent area surrounding the crown of the impacted tooth.
supernumerary tooth along with another dilacerated supernumerary tooth [Fig 1].

Displacement and separation of the central incisors was also noticed in the OPG [Fig 2].

C.T. Scan revealed soft tissue density measuring about 2.62×1.92cm in the midline [Fig 3].

The Routine blood investigations were normal and the cyst was enucleated along with and supernumerary tooth under general anaesthesia. The macroscopic findings revealed the cystic lining attachments to the cemento-enamel junction of right supernumerary tooth along with a nodular thickening which is present on the cyst wall [Fig. 4, Fig.5, Fig. 6].

Histo-pathological examination showed a thin fibrous cystic mass lined by 2-4 layers of flat epithelial cells resembling reduced enamel epithelium and the nodular portion revealed inflammatory component and cholesterol clefts [Fig.7, Fig. 8, Fig. 9].
Over all features led to the diagnosis of infected dentigerous cyst having cholesterol clefts and associated with supernumerary tooth.

**Discussion:**

Dentigerous cyst involves any unerupted teeth, whatever may be the cause for the failure of eruption. Mandibular third molar and maxillary canine are commonly involved followed by mandibular premolar and maxillary third molar and very rarely central incisor, deciduous teeth and supernumerary teeth. Shear And Singh (1978) in their study found 1.5% incidence of central incisors involved as compared to 45.7% of mandibular third molar very substantial majority involved mandibular third molar. Dentigerous cysts associated with supernumerary teeth are rare and estimated to constitute 5-6% of all dentigerous cysts. They resemble the usual dentigerous cysts in terms of sex predilection and age distribution. Dentigerous cyst associated with supernumerary tooth constitute vast majority an about 90%, are associated with a maxillary mesiodens. (It reported by Lustmann And Bodner (1988)). The epithelial lining often contains focal areas of ortho-keratinised or mixture of mucin secreting and ciliated cells. On the occasions untreated some dentigerous cysts rarely have potential to develop odontogenic tumors like ameloblastoma and malignancy like oral squamous cell carcinoma, mucoepidermoid carcinoma and also Cholesterol clefts which are more common in radicular cysts because of constant inflammatory form. Dentigerous cyst associated with anterior region will result in the failure of eruption leading to aesthetics and orthodontic problems and rarely dilaceration in the regional teeth and also presence of cholesterol clefts is not only confined to radicular cysts but may be rare phenomenon in infected cysts or lesions as reported in this case.

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**References:**

1. R. A. Cawson, J. D. Langdon, J. W. Eveson Cysts and cyst-like lesions of the jaws


12. Sloot weg P.J, Carcinoma Arising from reduced enamel epithelium. J ORAL PATHOL 1987; 16

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