

Congenital Dentigerous cyst: A Rare Case Report.

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Abstract:

Dentigerous cysts comprise the second most common type of odontogenic cysts, after radicular cysts, representing nearly 20% of all the true jaw cysts. A vast majority of the dentigerous cysts are associated with impacted permanent teeth. We report a case of full term one day old male neonate, presented with an intraoral mass in the anterior sector of the mandible suggestive of Dentigerous cysts. Our case, which is a rare presentation of dentigerous cyst in a 1 day old neonate—the earliest case to be documented—points to the fact that the cyst may be manifested even before the eruption of the first permanent tooth, and can be actually associated with it.

Key words: Developmental cyst, Dentigerous cyst, Odontogenic cyst

Introduction:

Nearly 20% of all true jaw cysts are dentigerous cysts, the second most prevalent kind of odontogenic cysts after radicular cysts.[1, 2] Dentigerous cysts are classified as epithelial odontogenic cysts according to the WHO classification of jaw cysts.[3] They are attached to or completely encircle the crown of the unerupted tooth.[4] Majority of dentigerous cysts have impacted permanent teeth. Dentigerous cysts have, however also been shown to occasionally have impacted primary teeth.[5] Dentigerous cysts can occur in people of all ages, but they are most commonly found among individuals between the ages of 10 and 30. Congenital pathologies are those that are present at birth and occurrence of congenital cystic lesions in the oral cavity is even more infrequent in newborns. This case report describes the unusual development of a dentigerous cyst in a 1 day old neonate, the cysts earliest known occurrence age. Their early detection and prompt treatment are crucial to prevent further growth.

Case report:

A full term one day old male neonate, born after an uncomplicated pregnancy with no antenatal or natal risk factors, was evaluated by his pediatrician at the moment of birth finding an intraoral mass in the anterior sector of the mandible.(Pic 1) Physical

examination revealed a 2x2 cm diameter exophytic, soft, pink compressive lesion in the anterior sector of the mandible, lifting the tongue up. No other congenital anomalies were found on head to toe examination. The baby was found to have difficulty in feeding and due to the patient's age and the presence of feeding problems the treatment of choice was to remove the lesion. Hence, the neonate was posted the next day for enucleation of cyst (Pic 2) under general anaesthesia after receiving preanaesthetic clearance. Examination revealed a massive brownish cystic sac with a corrugated surface measuring 2 by 2 cm linked to the crown of a tooth that was only partly developed. The entire specimen along with the tooth was sent for examination. Microscopic inspection of the sections indicated a cystic lumen walled with decreased enamel-like epithelium (non-keratinized), 3–4 cell layers thick in most regions. Collagen fibers made up the fibrous capsule that was under the skin. In certain regions of the connective tissue capsule, lymphocytes and plasma cells formed a dense chronic inflammatory cell infiltration, and the epithelial lining directly above the inflamed regions was hyperplastic. The ultimate diagnosis of an inflammatory dentigerous cyst was made based on these characteristics.

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Pic 1: Intraoral mass



Pic 2: Enucleated Cyst

Discussion:

Developmental odontogenic cysts known as dentigerous cysts are developed around the crown of an immature or impacted tooth as a result of fluid buildup between the reduced enamel epithelium and the tooth enamel. It is believed that the increased hydrostatic pressure of this pooled fluid detaches the follicle from the crown [6]. According to Toller [7], the disintegration of the growing cells of the tooth's follicles during obstructed eruption may be the likely cause of the cyst's development. There have been a few instances where dentigerous cysts have inflammatory pathophysiology, despite the fact that the majority of these cysts have developmental origins. Inflamed dentigerous cysts may arise from tooth follicles and become secondary sources of inflammation, according to a theory put out by Benn and Altini.[8] Although the patient may simply

describe a slowly increasing, painless swelling, it has been suggested that a growing child's cyst enlarges more quickly than an adult's cyst [9].

Unless it is secondarily infected, a dentigerous cyst normally manifests as a painless swelling. On the radiograph, the crown of an unerupted tooth frequently exhibits a unilocular radiolucency. The cyst most frequently surrounds the tooth's crown, which in our instance protrudes into the cyst. If such cysts are not detected and treated, their growth may impinge on nearby tissues like the inferior alveolar nerve and the roots of neighboring teeth, causing paresthesia, root resorption, etc.[10]. Therefore, it is crucial to find and remove these cysts as soon as possible.

The size and location of the dentigerous cyst determine the course of treatment. Enucleation of the cyst with primary closure, marsupialization, and secondary union healing are two alternatives for the treatment of these cysts in children. Given that long-standing dentigerous cysts or their remnants have been documented to cause recurrent cysts, ameloblastoma, squamous cell carcinoma, and mucoepidermoid carcinoma[11], complete excision of the cyst is imperative.

Conclusion:

In the first ten years of life, dentigerous cysts are uncommon, and when they do arise, they usually present with minimal symptoms. However, they have the capacity to grow considerably over time. In our instance which is, the earliest case of dentigerous cyst to be described in a newborn, conveys about the possibility of the cyst to be able to develop even before the eruption of the first permanent tooth.

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