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Dentigerous Cyst in a Young Child

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Abstract: ***Odontogenic cysts of the dentigerous kind typically develop in the second or third decades of life. It always involves a tooth that cannot finish the eruption process and develops towards the crown as a result of fluid buildup between the layers of enamel. According to research by Sharp and Helsper, a mechanical blockage or an eruptive deviation that affects the tooth germ's normal growth can result in dentigerous cysts (1). Ameloblastomas, mucoepidermoid carcinoma, and squamous cell carcinoma can also develop from these cysts. It is clinically asymptomatic up until it becomes irritated. To establish the diagnosis, dentists must conduct a thorough dental examination and history on each patient. Clinical examinations and radiographic study interpretation are crucial stages in evaluation. Here, we report the instance of a 10 - year - old child who visited the clinic for a regular dental exam but had no symptoms whatsoever. In the same area, there were no clinical signs of tooth extraction, edema, or discomfort.***

Keywords: child, dentigerous cyst, asymptomatic, mandible, dental impaction

1. Case Description

A 13 year old male child presented for oral evaluation in our clinic for a routine dental check up. His medical history is unremarkable, with no significant past medical history, no constitutional symptoms and no oral complaints. Patient's mother was concerned about the child consuming sugary stuff and having prior inconsistent dental care. A panoramic radiograph showed a well defined radiolucent lesion including the crowns of the unerupted mandibular left 2nd premolar. A 2 1 cm diffuse swelling involving the attached gingiva and vestibular mucosa was present in relation to the distal aspect of the left lower premolar until the mesial aspect of the left lower permanent first molar. The swelling ranged in consistency from soft to firm, and there was expansion of the buccal cortical bone in relation to the left lower canine and second molar. Intra - oral periapical radiographs and a panoramic radiograph were recommended for the patient, which revealed a well - defined unilocular radiolucency with sclerotic borders. Dentigerous cysts were suspected based on clinical and radiographic findings. Enucleation of the cystic cavity was planned in light of the age - appropriate management and location of the cyst. The cystic lesion was sent for histopathological examination. Microscopic examination of all sections revealed that the odontogenic epithelium surrounding the cystic cavity was made up of flattened cells that were three to five cells thick. The stroma of connective tissue showed interlacing collagen fibres, fibroblasts, and vascularity. In the stroma, there was a severe inflammatory cell infiltration and cholesterol cleft, indicating a dentigerous cyst.

2. Discussion

An odontogenic cyst that is connected to the crown of an unerupted tooth is known as a dentigerous cyst or follicular cyst. It makes up between 16% and 40% of all genuine cysts in the jaws and is the second most frequent type of odontogenic cysts after radicular or periapical cysts [7].

The cysts most frequently linked to impacted third molars in the mandible, canines in the maxilla, third molars in the maxilla, and second premolars in the mandible are dentigerous cysts. Men are more likely than women to have it in the second and third decades of life. Usually asymptomatic, however the most prevalent sign that dentigerous cysts have formed is a delay in eruption. These cysts can grow to substantial sizes and are frequently linked to cortical bone expansion, but they hardly ever do so in people who are prone to pathological fractures (2).

The dentigerous cyst appears radiographically as a well - defined, unilocular or multilocular radiolucent with a cortical edge that matches to the tooth's unerupted crown. Normally, this unerupted tooth is replaced. It is also possible to view the roots of the teeth that have erupted being resorbed (2).

The choice of treatment for dentigerous cyst is ruled by various factors, such as age of the patient, location and size of the cyst, position of the tooth in relation to the cyst, degree of the axial inclination of the tooth and root formation. Also, it is important to check for proximity to the vital structures when we consider treatment options (8, 9).

Out of all the surgical therapy options, cyst enucleation is the method most frequently used to treat dentigerous cysts. Because of their size, the potential for tissue loss in the surrounding area, and the risk of a pathologic fracture, huge dentigerous cysts are often treated with marsupialization, which is another alternative (3).

According to the aforementioned case study, enucleation is a suitable or preferred form of treatment for young patients. Additionally, compared to adults, youngsters have a stronger ability to rebuild the bone structure after enucleation (4).

There are many benefits of enucleating the dentigerous cyst, including a low recurrence rate, a speedy healing period, and successful outcomes regardless of bone grafting techniques (5). Even in cases of very large lesions, bone regeneration

has been demonstrated to occur after enucleation and straightforward cyst closure (6).

3. Conclusion

Whenever possible, a conservative attitude should be taken, one that allows for the maintenance of the dentition and treatment of the lesion in the best interest of the patient. It rarely recurs after complete cyst removal. Dental implants can be considered for restoring lost teeth if there is sufficient bone regeneration.

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