



## A Giant Dentigerous Cyst in a Pediatric Patient

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### Abstract

The present article emphasizes importance of regular radiographic evaluation in pediatric patients noticed with retained primary teeth, delayed eruption of permanent teeth and other suspicious conditions encountered during routine dental check-up. A huge dentigerous cyst was observed following a radiographic examination taken for some other purpose in a 5-year-old Indian male patient. The cyst was asymptomatic constituting permanent teeth buds. In this paper, presence of an asymptomatic huge dentigerous cyst is described which occurred in the maxillary arch which is rarely reported in the literature.

### Dear Editor-In-Chief,

A 5-year-old male patient reported to a private dental clinic along with his parents complaining of loosened teeth in the upper and lower anterior region. Patient appeared apparently normal with respect to his age, well-nourished and with no history of previous hospitalization and no signs and symptoms of any systemic, metabolic or syndromic disorders. Intraoral examination was carried out which showed patient with complete primary dentition. Primary left central incisor and lower incisors were extremely mobile due to physiologic resorption. Patient was subjected to thorough radiographic examination which showed an unusual radiographic entity (Figure 1). On the right side, a huge, unilocular well-defined radiolucent lesion appeared consisting of developing permanent right central incisor, canine and lateral incisor tooth buds. The size of the lesion measured 3.5X4.5 cm. The right central incisor was displaced to the nasal floor and oriented in horizontal position. The right canine had only crown developed and displaced to the floor of the orbit and placed above and at the level of second premolar (Figure 1). The lateral incisor, first and second premolars were displaced in irregular position. The roots of other primary anterior teeth exhibited physiologic root resorption and developing permanent tooth buds in other parts of the dental arch. No other findings were observed. Clinically patient did not have any signs and symptoms associated with this cystic lesion. Aspiration of the cystic lesion was performed and suppurative fluid was aspirated. Based on clinical and radiographic findings a provisional diagnosis of dentigerous cyst was made as it was enclosing the developing permanent tooth buds. Patient’s parents were informed about the presence of hidden pathology in the dental arch and scheduled for further treatment.



**Figure 1:** Orthopantomogram radiograph showing unilocular, radiolucent cystic lesion enclosing permanent right central incisor, canine and lateral incisor.

Various odontogenic cysts can be noticed in children without causing signs and symptoms [1-9]. Dentigerous cyst is one among that accounting for 25% of total cysts and hardly seen in the mixed dentition stage associated with an erupted or developing tooth. These represents second most common cystic lesion of the jaws, with radicular cyst is considered as the most common type [1]. These cysts are considered as true cyst and most commonly involved the mandibular third molars, the maxillary canines, maxillary third molars and rarely the central incisors. They can be easily distinguished by their attachment to the cemento-enamel junction of an unerupted or impacted tooth, with its crown protruding into the cystic cavity. They develop from altered tissue of the reduced enamel epithelium of the follicle and always forming after amelogenesis. These changes are followed by the secretion of the cystic fluid into the space between the follicle and the crown of the permanent tooth, causing a continuous growth of the cyst. This cyst is developed by an expansion of an unerupted tooth follicle enclosing crown of the tooth most commonly involving maxillary canines followed by maxillary canines. These cysts also involved mandibular premolars and supernumerary teeth like mesiodens in rare instances [4]. These cysts are most of the time are asymptomatic unless secondarily infected and hence always diagnosed on routine radiographic examination. It is reported that dentigerous cysts occur in the 20-30 years of life with predilection to male gender. Publications showing its occurrence within 10 years of life are scanty. Therefore, the present article is unique as it occurred in 5-year-old young child in primary dentition period. These cysts have shown higher percentage of occurrence in the mandibular region rarely involving anterior region of the maxilla. In this case, the cyst occurred in the posterior region of the maxilla which too is rarely reported site. Based on their etiology, these cysts are classified into two types as developmental and inflammatory type [4]. Cysts with inflammatory origin shows periapical infection from the overlying necrotic primary tooth that spreads to contain the sac of the unerupted permanent successor. In cysts with developmental origin, collection of fluid between the tooth enamel and reduced enamel epithelium occurs. Therefore, precise diagnosis of these cysts involves careful evaluation from all aspects including clinical, radiographic and histological evaluation. The detailed evaluation also helps in differential diagnosis from other lesions such as ameloblastoma, ameloblastic fibroma, odontogenic myxomas and odontogenic keratocyst [6,8].

Dentigerous cysts are always exhibit unilateral and singular appearance. Sometimes these cysts are seen associated with other syndromic conditions like mucopolysaccharidosis and basal cell nevus syndrome. But in this case, patient was non-syndromic without any systemic or metabolic conditions present and exhibited unilateral appearance occurring on right side of the maxilla. Literature review explains that the overlying necrotic deciduous tooth is the source of the dentigerous cyst [1,4]. The periapical infection from the primary teeth spreads to an unerupted permanent successor follicle, resulting in inflammatory exudate and formation of a dentigerous cyst [2]. Compared to odontogenic keratocyst, or radicular cyst dentigerous cyst more likely cause root resorption of adjacent teeth [9]. In growing adolescent these cysts grow very faster compared to adult. Regarding treatment consideration for these cysts, the treatment modality depends on their size, location and deformity. In case of smaller cysts, enucleation can be performed and in case of larger cyst marsupialization is carried out.

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## CITATION

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