

A Dentigerous Cyst Lateral to the Pyriform Aperture in 8 Years Old Female, Associated With Erupting Canine: A Rare Case Report

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Case Report

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Abstract: Dentigerous cyst originates through alterations of the reduced enamel epithelium in an unerupted tooth after the full formation of crown. The most common type of developmental odontogenic cysts are the dentigerous cysts, arising from the crowns of impacted or unerupted teeth. Rarely, dentigerous cyst develops in an immature permanent tooth in the first decade of life. About 20% of all epithelium-lined cysts of the jaws are the dentigerous cysts. Females are less commonly affected by dentigerous cysts. Mandibular third molar and maxillary canines are most often involved. The greatest incidence can be seen in second and third decade of life but it can occur at any age of life. Occurrence of dentigerous cysts in the maxilla is about 30% and in the mandible is about 70%. An ovoid well-demarcated unilocular radiolucency with sclerotic border is the radiographic appearance of dentigerous cyst. In this report, a case of 8 years old female patient affected by dentigerous cyst and its management is presented.

Keywords: Cyst, unilocular, dentigerous cyst, unerupted

INTRODUCTION

In 1853, Paget coined the term “dentigerous cyst”. “Tooth bearing” is the literal meaning of “dentigerous”. The most common type of developmental odontogenic cysts are the dentigerous cysts, arising from the crowns of impacted or unerupted teeth[3]. Dentigerous cysts are most frequently associated with embedded, unerupted teeth, supernumerary teeth and odontomes[4]. Remnants of odontogenic epithelium may give rise to dentigerous cyst[1].

When the collection of fluid or a space takes place between the reduced enamel epithelium and the enamel of an impacted tooth, expansion of follicle takes place around the crown of an unerupted tooth and the formation of the dentigerous cyst takes place[11]. Dentigerous cysts are the second most common cystic lesions of the jaws, followed by radicular cysts. 5%-6% of all dentigerous cysts are associated with supernumerary teeth[3]. Approximately 90% of all dentigerous cysts are associated with a maxillary mesiodens and 95% involve the permanent dentition[3,9]. Dentigerous cyst contributes about 20-24% of all jaw cysts. These cysts are rare in first decade of life[5]. Females are less commonly affected by dentigerous cysts[10]. Mandibular third molar and maxillary canines are most often involved[3]. 1.44% cyst for every 100 unerupted teeth in general population is the frequency of occurrence of dentigerous cyst[7]. The greatest incidence can be seen in second and third

decade of life but it can occur at any age of life[7,10]. Dentigerous cysts are usually diagnosed during routine radiographic examination because these are many times asymptomatic unless there is an acute inflammatory exacerbation. When the dentigerous cyst reaches a size larger than 2 cm in diameter, swelling, sensitivity, teeth displacement and tooth mobility can be seen. An ovoid well-demarcated unilocular radiolucency with sclerotic border is the radiographic appearance of dentigerous cyst. There are some complications associated with dentigerous cyst like pathologic bone fracture, bone deformation, sacrifice of permanent tooth as well as development of ameloblastoma, squamous cell carcinoma and mucoepidermoid carcinoma [11]. The treatment options indicated for dentigerous cysts are avoiding damage to the involved permanent tooth, enucleation of all pathological tissues or cyst with the removal of the involved tooth, or marsupialization which removes the cyst while preserving the developing

tooth[5,11]. For the prevention of recurrence of the cystic lesion, the removal of the cystic lesion and the extraction of unerupted tooth is the prime treatment[5]. In the present paper, we report a rare case of dentigerous cyst associated with erupting canine and its management.

CASE REPORT

An 8 year old female patient visited the department of “Oral and Maxillofacial Surgery” of M. A. Rangoonwala College of Dental Sciences and Research Centre, Pune ,with chief complaint of pus discharge from the upper left back teeth region of jaw. The patient’s dentition was mixed. Maxillary and mandibular permanent central incisors and first molars were present. Mandibular permanent lateral incisors were present. Maxillary and mandibular deciduous canine,first and second molars were present. Maxillary deciduous lateral incisors were present. Maxillary left

deciduous first molar was grossly carious and soft oedematous tissue was associated with it. No pathology was found during extraoral examination.

In the panoramic radiograph, unilocular radiolucent cystic lesion with sclerotic border was found lateral to the left pyriform aperture. It was associated with left maxillary erupting canine as shown in the following orthopantomograph. (Figure no. 1)

The treatment of choice was enucleation of cyst. Under general anaesthesia, all surgical interventions were carried out. (Figure no. 2)

The specimen was sent for histopathological examination (Figure no. 3). Histopathology reports showed no keratinizing stratified squamous epithelium and diagnosed the dentigerous cyst. Proper follow up was done for 2 months, there was no any recurrence.



Fig-1: Unilocular radiolucent cystic lesion with sclerotic border is seen lateral to the left pyriform aperture associated with left maxillary erupting canine



Fig-2: Enucleation under general anaesthesia



Fig-3: Specimen sent to histopathology laboratory

DISCUSSION

The characteristic description of the dentigerous cyst is the “cyst containing tooth”. A dentigerous cyst is attached to the cemento-enamel junction of the unerupted tooth, surrounding unerupted tooth crown and expanding the follicle [4]. Literature reports two types of dentigerous cysts, inflammatory and developmental. The most common type is the developmental [5]. Only 4-9% of the dentigerous cysts occur in first decade of life, most commonly these occur in second and third decade of life[5,10]. Dentigerous cyst affects male more commonly with the incidence rate of 1.84:1[3]. Inflammation, allergy, infection, rhinologic and odontogenic factors believed to play role as the etiology of dentigerous cyst[2]. Multiple dentigerous cysts are seen with syndromes such as Marteaux-Lamy syndrome, Basal cell nevus syndrome, Gardner’s syndrome and mucopolysaccharidosis but more commonly they are solitary in nature [4]. Ameloblastoma, odontogenic myxoma, radicular cysts having inflammatory origins, maxillary cysts, odontogenic fibroma are the differential diagnosis for the pathology of dentigerous cyst [1]. The progress of dentigerous cyst is slow and it may exist unnoticed for several years. On radiographic examination, a well-defined unilocular radiolucency of varying sizes is seen with a well-defined sclerotic border, associated with the crown of an unerupted tooth which was noted in our case [3,7]. There are three types of dentigerous cysts which are described radiographically:

(a) The central variety: In this type, the tooth crown is surrounded by the radiolucency. (b) The lateral variety: In this type, the radiolucency is noted laterally along the tooth root, means it partially surrounds the crown. (c) The circumferential variety: In this variety, the radiolucency extends down along the root surface, surrounding the crown. The definitive diagnosis for the dentigerous cyst is accounted by the histological examination which was carried out in our case report. The dentigerous cyst shows fibrous wall with nonkeratinized, stratified squamous epithelial lining and consists of myxoid tissue on the histologic examination

[4]. “Enucleation” is the standard treatment for a dentigerous cyst. For dentigerous cysts, treatment plans are proposed: (a) Enucleation of cyst along with the extraction of tooth involved, (b) Marsupialization technique-the removal of the cyst is involved, preserving the developing tooth, (c) decompression of cyst by fenestration[4,7]. Marsupialization is the recommended treatment option in young patients with isolated lesions as teeth preservation is desirable[4]. Literature advocates an initial marsupialization for diminishing the size of the osseous defect, which would be followed by enucleation and extraction of tooth involved[3]. Thus in our case enucleation and extraction of tooth was done. The recurrence of persisting lesion is the disadvantage of marsupialization[3]. The frequently associated complications with dentigerous cysts are loss of permanent tooth, pathological bone fracture, malignancy development like squamous cell carcinoma & mucoepidermoid carcinoma, ameloblastoma and deformation of bone[4]. The success rate can be increased by early clinical diagnosis along with true treatment choice[5].

CONCLUSION

In this article, we report a case of dentigerous cyst in 8 year female patient. The occurrence of dentigerous cyst in the first decade of life is the rare phenomenon as well as occurrence in females is also rare. In this case, the dentigerous cyst is located lateral to the pyriform aperture and associated with an erupting canine. All these findings are rare and make this case worth reporting.

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