

# Dentigerous Cyst Associated with Mesiodens: A Symbiotic Existence

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## ABSTRACT

Dentigerous cyst is a developmental odontogenic cyst that develops by accumulation of fluid between the reduced enamel epithelium and the tooth crown of unerupted tooth. Mesiodens is a supernumerary tooth between both maxillary central incisors. Dentigerous cyst associated with mesiodens is rare. This paper presents a case of dentigerous cyst associated with an inverted mesiodens causing a painless swelling in the upper lip of a 29 years old male patient along with the treatment strategy employed for the patient.

**Keywords:** Dentigerous cyst, Mesiodens, Anterior maxilla, Symbiosis

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## INTRODUCTION

**D**entigerous or follicular cyst is a developmental anomaly of odontogenic origin; which simply means “containing teeth”; benign in nature. It surrounds the crown of an impacted tooth, an odontoma, or a supernumerary tooth, formed by the accumulation of fluids between the reduced enamel epithelium and the crown, with consequent expansion of the tooth follicle, and is characteristically attached to the cervical area of the tooth (1). It is the second most common type of odontogenic cyst and the most common type of developmental cyst of the jaw (2).

This cyst most frequently occurs in patient between 10-30 years of age and there is a greater incidence in male with 1.6: 1 ratio (2). The cyst most often involves impacted third molars followed by maxillary canines, mandibular premolars and occasional supernumerary tooth (only 5%) .

These cysts are usually slow growing lesion and may attain a considerable size with minimal or no symptoms resulting in facial asymmetry, Dentigerous cyst are tentatively diagnosed on routine dental radiographs. Radio-

graphically it appears as a well-defined radiolucency, usually with sclerotic borders, associated with the crown of an unerupted tooth (1).

Supernumerary teeth may be defined as teeth in excess of the unusual configuration of 20 deciduous and 32 permanent teeth. The reported prevalence ranges between 0.3 - 0.8% in the primary dentition and 0.1-3.8% in the permanent dentition. The term Mesiodens was coined by Bolk in 1917 to denote an accessory or supernumerary tooth situated in between the maxillary central incisor. It is usually a small tooth with a cone or peg shaped crown and a short root. Less frequently the problems associated with Mesiodens include root resorption of adjacent teeth, dentigerous cyst formation and nasal eruption of supernumerary teeth (3).

This paper presents a case of dentigerous cyst associated with mesiodens in a 29 years old male patient.

## CASE REPORT

A 29 year old male presented with a chief complaint of progressively enlarging intraoral painless swelling in the upper jaw, for the past 1 year. The

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swelling gradually increased in size caused discomfort to the patient. At the time of his presentation the patient had no systemic disease.

The intraoral clinical examination detected a firm palatal and labial swelling in the maxillary anterior region, on both sides of the midline (Fig. 1). The swelling measured 3x 2.5 cm approximately. There were no visible or palpable pulsations. Extra oral examination showed swelling of the upper

lip. The lips seemed to be incompetent.

The intra oral periapical radiograph showed a radiopacity indicating inverted Mesiodens present between the roots of central incisors associated with a large radiolucency with sclerotic borders (Fig. 2). The Mesiodens had a cone shaped crown and a short root, resulting in resorption of cortical bone.

Based on history, clinical examination and radiography a provisional diagnosis of ameloblastoma, radicular cyst and odontogenic keratocyst was established. The differential diagnosis

of dentigerous cyst with impacted mesiodens was considered. Routine laboratory parameters were normal hence the lesion was totally enucleated together with the Mesiodens under local anesthesia. Palatal flap was raised and mesiodens was partially exposed and removed (Fig.3). The specimen measured approximately 19 mm x 12 mm x 3 mm.

Histological examination revealed nonkeratinised stratified squamous 1-2 cell layer thick cystic lining. The underlying connective tissue was ectomesenchymal-like suggestive of a Dentigerous Cyst (Fig.4). Thus the clinical, radiographic, histopathological features lead to the final diagnosis of dentigerous cyst associated with inverted mesiodens. The patient has remained asymptomatic and experienced no recurrence during the 14 months post operative period.

**DISCUSSION**

Swelling of the upper lip may result from different conditions including infection, allergic conditions, neoplasm (salivary gland), granulomatous condi-



Figure 1: The patient showed a firm palatal and labial swelling in the maxillary anterior region, on both sides of the midline

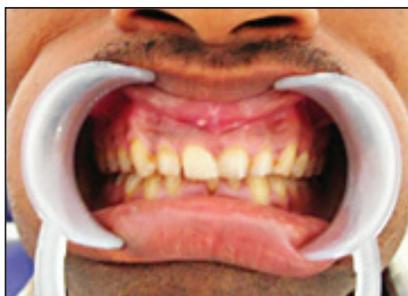


Figure 3: Palatal flap was raised and mesiodens was partially exposed and removed

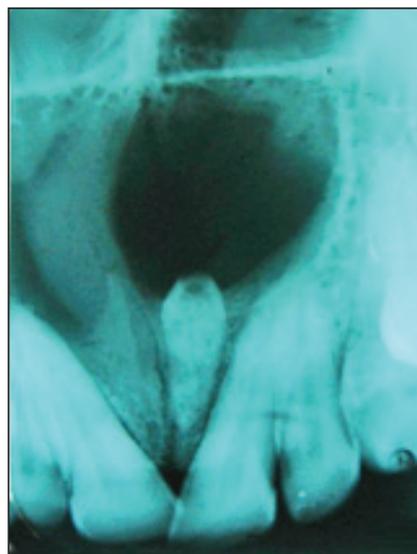


Figure 2: The intra oral periapical radiograph showed a radiopacity indicating inverted mesiodens present between the roots of central incisors associated with a large radiolucency with sclerotic borders

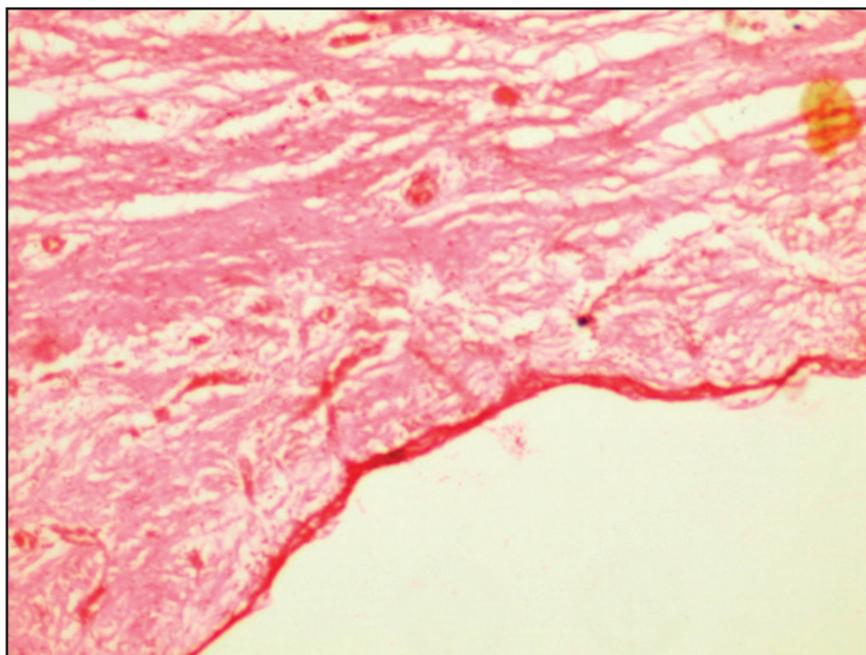


Figure 4: A photomicrograph shows nonkeratinised stratified squamous 1-2 cell layer thick cystic lining. The underlying connective tissue was ectomesenchymal-like suggestive of a Dentigerous Cyst (H/E, 20X)

tions and different types of cyst (4). Deley and Winsock have recommended the following points for the diagnosis of dentigerous cyst-

- A pericoronal radiolucency >4 mm in the greater width.
- Histologically, fibrous tissue lined by non keratinized stratified squamous epithelium.
- Surgically demonstrable cystic space between the enamel and the underlying tissue.

Of these, the third is the most critical, but all the three must be satisfied.

Mesiodens can be classified on the basis of their occurrence in the permanent dentition (rudimentary mesiodens) or primary dentition (supplementary mesiodens) and according to the morphology as conical, tuberculate or molariform. Supplementary mesiodens resemble natural teeth in both size & shape where as rudimentary mesiodens exhibit abnormal shape and smaller size.

Conical mesiodens usually occur singly. They are generally peg shaped and are usually located palatally between the maxillary central incisors, tending

to displace the erupting permanent central incisors. Tuberculate mesiodens are barrel shaped with several tubercles or cusps and have incomplete or abnormal root formation. A third rarer type is the molariform mesiodens which has a premolar like crown and an incompletely formed root.

Scolozzi et al reported an unusual case of impacted Mesiodens resulting a slow growing swelling in the upper lip (4). Khan et al also described an upper lip swelling caused by a large dentigerous cyst associated with Mesiodens (5). Dinkar et al described an early presentation of multiple mesiodens with associated dentigerous cyst (6). Sharma et al reported the case of a dentigerous cyst associated with impacted inverted mesiodens that develops secondary to trauma to its predecessor a non vital permanent maxillary central incisor(7).

The presence of mesiodens causes complications such as delayed eruption of permanent teeth, retention, relapse, root resorption, pulp necrosis and diastema as well as formation of dentigerous and primordial cyst. Thus to avoid the complications caused by dentigerous cyst early diagnosis should

be made for a proper and needful treatment.

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