

# Dentigerous Cyst : A Radiographic Diagnosis

Dr. Saloni Kumari  
P.G. Student

Dr. Swati Dhingra  
P.G. Student

Dr. Vijay Raghavan  
Professor & HOD

Dr. Ranjana Garg  
Reader

Department of Oral Medicine & Radiology, Seema Dental College & Hospital, Rishikesh, Uttarakhand - 249203

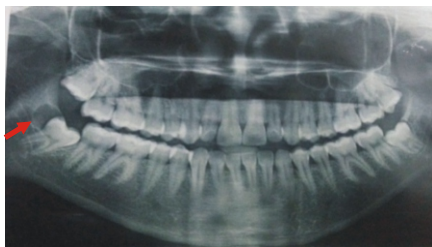
## Abstract

Odontogenic cysts are 2nd most common type of developmental tooth cysts. These cysts with epithelial lining arise from the structures involved in the tooth development or their remnants that lie entrapped within the bone or in the gingival tissues, such as dentigerous cysts and keratocysts. Here we present a case of dentigerous cyst occurring in a young female, screened during routine radiographic examination.

**Keywords:** Odontogenic, Cyst, Developmental, Dentigerous Cyst

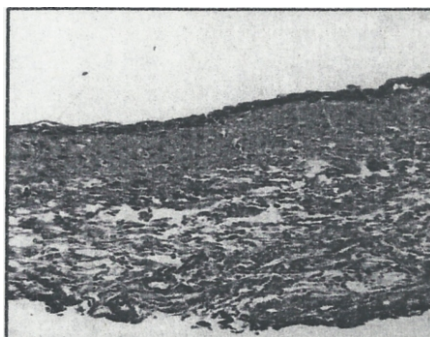
## Case Report

A patient named Akanksha Rawat, age 24 years, reported to the department with chief complaint of dirty teeth since the past 2 months. There was no history of any deleterious habits. Patient's past medical and past dental history was insignificant. There were no systemic abnormalities and all vital signs were within the normal range. There was no significant or obvious facial asymmetry. On intraoral examination, it was found that 16,27,36,46,47 teeth were carious and 18,28,38,48 were impacted. Black stains and calculus deposits were appreciable over the teeth. As all the 3rd molars were impacted we advised the patient for an OPG. OPG (Fig. 1) revealed a solitary radiolucency attached to the lateral aspect of the crown of 48 tooth. Radiolucency was well defined, corticated and circular in shape. Internal aspect was completely radiolucent with the crown of the involved tooth and approx. 1×1 mm in size. So, radiographic diagnosis of enlarged follicular space i.r.t. 48 was made. Differential diagnosis of Dentigerous cyst was given.



After this, the patient was referred to the Periodontics department for oral prophylaxis and Oral Surgery department for the further treatment of the lesion. In Oral Surgery department, surgical enucleation of the lesion was done and the specimen was sent for

histopathological evaluation. Histopathology report revealed cystic epithelium overlying the connective tissue stroma, which was moderately collagenised with interspersed spindle and stellate shaped fibroblasts. So, a final diagnosis of Dentigerous cyst was made (Fig. 2)



## Discussion

Dentigerous cysts are the most common developmental odontogenic cysts. They are usually derived from the epithelial remnants of tooth forming organs. Dentigerous cysts are classically defined as cystic lesions that are caused by separation of follicles from around the crown of unerupted teeth. Most commonly dentigerous cyst involves lower 3rd molar (mandibular). Dentigerous cysts were earlier termed as "Follicular cysts" since it was assumed that these cysts were derived from tooth follicle which is a mesodermal structure.<sup>1</sup>

Dentigerous cyst is an epithelial lined developmental cavity. It encloses the crown of an unerupted tooth at the cemento-enamel junction and it accounts for 24% of all the true cysts of the jaws.<sup>2</sup>

Studies reveal that dentigerous cyst constitute more than a quarter of all jaw cysts. It predominates during the 2nd - 3rd decades of life. There is a very slight male preponderance. Majority of dentigerous cysts involves the mandibular third molar while maxillary canine is the next in the order of involvement. Very rarely dentigerous cyst can occur from ectopically erupted tooth within the maxillary sinus.<sup>3</sup>

The mandibular third molar and maxillary canine are most frequently involved. There is usually no pain or discomfort. When cysts are small, they are usually discovered in radiographic examinations that are taken to investigate

other symptoms or a failure of tooth eruption, but when cysts enlarge there are asymptomatic facial swellings.<sup>4</sup>

In the radiographic examination, dentigerous cysts appear as well-defined, round, corticated, lucent lesions around the crowns of impacted teeth, usually third molars. In the mandible, the associated radiolucency may extend superiorly from the third molar site into the ramus or anteriorly and inferiorly along the body of the mandible. In maxillary dentigerous cysts involving the canine region, extension into maxillary sinus or to orbital floor may be noted. Resorption of roots of adjacent erupted teeth may be occasionally seen.<sup>5</sup>

Histopathological examination of the cyst wall shows the cyst to be lined by reduced enamel epithelium. Connective tissue stroma will show features of primitive type of ectomesenchyme. Findings would depend on whether there is inflammatory component to the cyst is present or not. In non-infected cysts the lining epithelium is 2-4 layers thick formed by primitive ectomesenchyme. These lining cells are low cuboidal to columnar. Rete pegs could be seen only in cysts which are infected. The connective tissue stroma is loose and is rich in acid mucopolysaccharides. When the dentigerous cyst is inflamed then it is characterised by the presence of hyperplastic rete ridges and the cyst wall demonstrates inflammatory infiltrate.<sup>1</sup>

The usual treatment of dentigerous cyst is careful enucleation of the cyst in toto. Unerupted tooth if present should usually be removed along with the cyst. Sometimes if eruption of this tooth is sometimes orthodontic treatment may be advocated to assist eruption of unerupted teeth.<sup>6</sup>

## References

1. Thiagarajan B; Dentigerous cyst from supernumerary teeth; *Rhinology*; October(3);2012.
2. Aggarwal P et al; Dentigerous cyst of mandible; *IJHNS*; May - August 2013; 4(2):95-97.
3. Soon J et al; Dentigerous Cyst Involving the Maxillary Sinus.; *J Rhinol*; November 2001; 8(1,2):547.
4. DQ Freitas et al; Bilateral dentigerous cyst: review of literature and report of an unusual case. *Dentomaxillofacial Radiology* 2006; 35:464-468.
5. Yavuz Findik, Timucin Bykul: Huge dentigerous cyst in the mandible treated under local anaesthesia; *Int J Exper Dent Sci* 2012; 1(1):45-47.
6. Mervin S and Paul SM. *Cysts of the Oral Cavity and Maxillofacial Regions*. 4th ed. Blackwell Munksgaard Publishers; 2007. 228p.

Address for Correspondence : Dr. Swati Dhingra, Dept. of Oral Medicine & Radiology, Seema Dental College & Hospital, Rishikesh, Uttarakhand. [drswatidhingra@gmail.com](mailto:drswatidhingra@gmail.com)

