

**Early Recurrence of dentigerouscyst - A case report****Garg Ramneesh<sup>1</sup>, Shah Sheerin<sup>2</sup>, Kaur Sundeep<sup>3</sup>, Garg Bhavna<sup>4</sup>**<sup>1</sup>Assoc Prof, <sup>2</sup>Assistant Prof, <sup>3</sup>Senior resident, Department of Plastic Surgery, Dayanand Medical College & Hospital, Ludhiana – 141001, Punjab, India<sup>4</sup>Professor, Department of Pathology, Dayanand medical college and Hospital, Ludhiana- 141001, Punjab, India**\*Corresponding author**

Dr. Sheerin Shah

Email: [sheerinkathpal@gmail.com](mailto:sheerinkathpal@gmail.com)

---

**Abstract:** Dentigerous cyst is a type of odontogenic cyst formed from the epithelium associated with the development of dental apparatus. They are most common of all types of developmental odontogenic cysts of the jaw and account for approximately 20 to 24 % of the jaw cysts. Diagnosis is usually made both by clinical and radiological examination and confirmed histologically. Most dentigerous cysts are treated with enucleation and removal of the associated tooth. The prognosis for most histopathologically diagnosed dentigerous cysts is excellent, recurrence being a rare finding. We report an interesting case of recurrence in this cyst in a young man.**Keywords:** dentigerous cyst, recurrent dental cyst, enucleation of dentigeous cyst, dental cyst

---

**INTRODUCTION**

Dentigerous cyst is a type of odontogenic cyst formed from the epithelium associated with the development of dental apparatus. They are most common of all types of developmental odontogenic cysts of the jaw and account for approximately 20 to 24 % of the jaw cysts [1]. There are two types of dentigerous cyst reported in the literature; developmental and inflammatory. They develop around the crown of a un erupted tooth by expansion of the follicle. A typical developmental cyst occurs as a result of pressure exerted by un erupted tooth on the follicle resulting in venous outflow obstruction, which further results in accumulation of exudate [2]. Some authors suggest that inflammation in peri apical region of temporary teeth (which is non vital), in proximity to follicle of permanent teeth may be a triggering factor resulting in dentigerous cyst formation [3, 4]. These cysts are always associated with an unerupted tooth and are commonly found around the crown of third molar of mandible followed by maxillary, canine and third molar respectively [5]. Swelling is the most common presenting symptoms, followed by tooth displacement or mobility [6]. Diagnosis is usually made both by clinical and radiological examination and confirmed histologically. Most dentigerous cysts are treated with enucleation and removal of the associated tooth. The prognosis for most histopathologically diagnosed dentigerous cysts is excellent, recurrence being a rare finding [7]

**CASE REPORT**

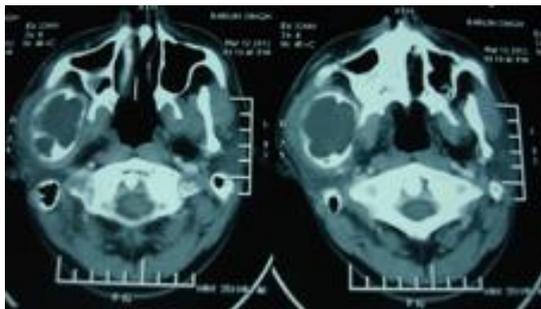
A 14-year-old boy presented with complaint of large swelling over his right angle of

mandible. The swelling was 5x5 cm in size, spherical with normal overlying skin and ill-defined margins (Fig 1). On palpation, it was firm in consistency, non-fluctuant and did not show any transillumination. Swelling appeared adherent to the underlying bone. X-ray mandible showed a translucent area in the uninterrupted right lower third molar with the tooth lying in the cyst (Fig-2). CT face showed a multilocular cyst at the right angle of mandible, with tooth at the base of the cyst (Fig- 3). Fine needle aspiration cytology from the swelling showed sheets of neutrophils and few foamy macrophages with few clusters of mature squamous epithelial cells.

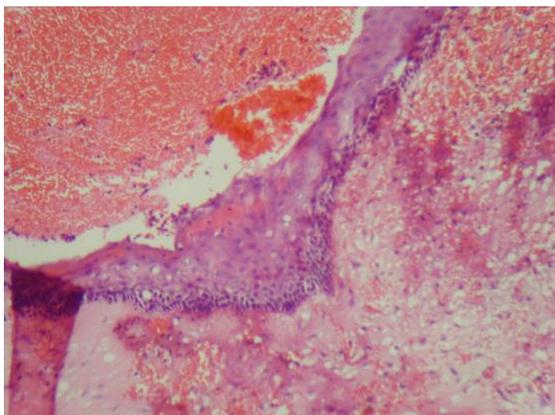
**Fig-1: Preoperative picture of patient**



**Fig-2:**X ray Mandible showing cyst in right lower third molar.



**Fig-3:** Axial view of CT showing Cyst



**Fig-4:** Histopathology showing features suggestive of Dentigerous cyst

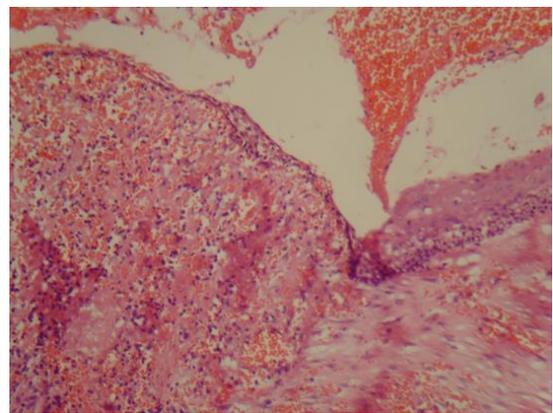
Under general anesthesia, enucleation and curettage was done and patient discharged on 5th postoperative day. The histopathological report showed presence of a cyst lined by stratified squamous epithelium consistent with the diagnosis of dentigerous cyst (Fig-4).

Five months later patient had disease recurrence. Patient was taken up for repeat surgery. Right hemimandibulectomy with selective lymph node dissection was done. Mandibular reconstruction was done with vascularized free fibula (Fig-5). Histopathology of the excised specimen was reported as a cyst cavity lined by stratified squamous epithelium with ulceration and inflammatory granulation acute and

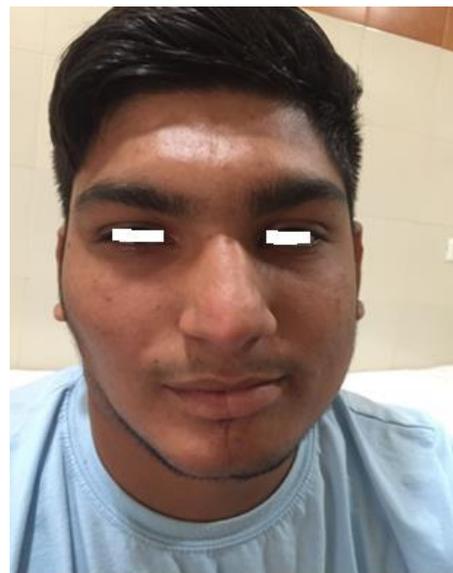
chronic with foreign body reaction (consistent with dentigerous cyst). No evidence of malignancy was detected (Fig-6). Postoperative period was uneventful and at two years of follow up patient has had no recurrence (fig-7, 8)



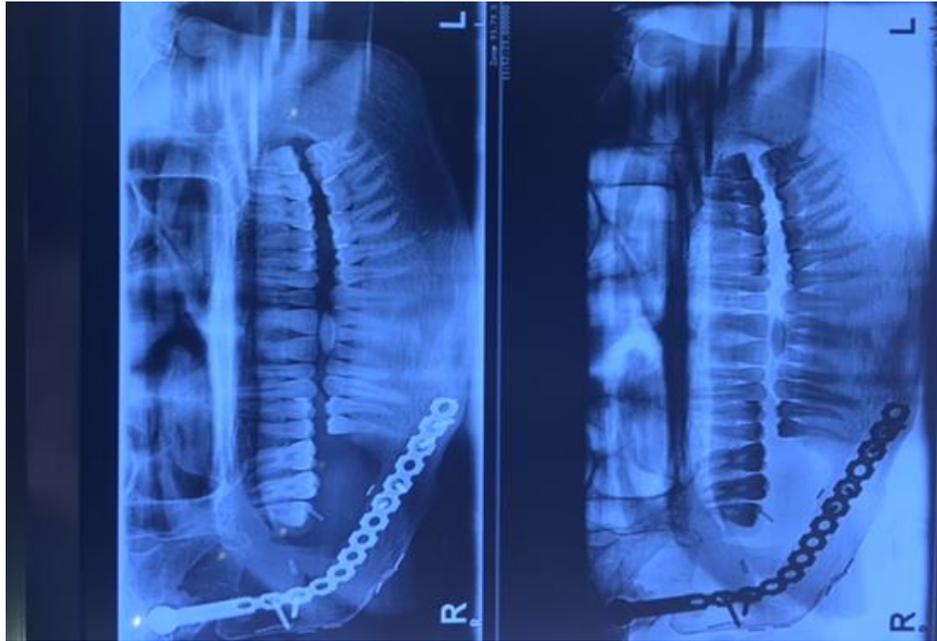
**Fig-5:**Intraoperative picture showing Mandible reconstruction with free fibula graft.



**Fig-6:**Histopathology showing features of recurrent dentigerous cyst



**Fig-7 :** 2 year Post operative picture of patient



**Fig-8: 2 year post operative OPG showing well healed fibula graft with no recurrence.**

#### **DISCUSSION:**

The term dentigerous literally means ‘tooth bearing’ [8]. Dentigerous cysts are associated with an unerupted tooth. Radiographic appearance is that of a well-defined radiolucent lesion, which may be unilocular or multilocular in appearance and can be divided into central, lateral and circumferential varieties. This case was characteristically a 19 year old boy with a circumferential variety of cyst on X- Ray.

Clinically it is difficult to differentiate dentigerous cyst from periapical cyst, odontogenic keratocyst, central giant-cell granuloma, and ameloblastoma. The diagnosis is always confirmed by subjecting the tissue to histopathological examination. Rarely, untreated dentigerous cysts may turn into an odontogenic tumor (ameloblastoma) or a malignancy (oral squamous cell carcinoma) [3]. To avoid such complications, marsupialization and surgical enucleation of the cyst are the treatment of choice for these cysts.

Mc Donald and Fletcher [9] and Deboni M C Z *et al.*;[10], in their studies states that dentigerous cyst do not recur after complete excision. M. H. K. Motamedi and K. T. Talesh studied the management of extensive dentigerous cysts during an 11-year period from 1991–2002, 40 cases of extensive (involving three or more teeth) dentigerous cysts of the maxilla and mandible were studied and none of the cases showed recurrence [11].

On the contrary, HoonMyoung *et al.*; in their study on 256 patients with odontogenic keratocyst concluded that dentigerous cyst had 27.3% recurrence

rate. He also concluded that a significantly higher recurrence rate was found in patients in the fifth decade of life than in patients in the other age groups. However in our study the recurrence occurred in second decade [12].

Review of literature does not suggest any other data related to recurrence in dentigerous cysts. The probable reason for this is its rarity. In this case the radiology and histopathology were all suggestive of dentigerous cyst and recurrence after enucleation was a strange occurrence. In the first stage, we decided to do enucleation instead of marsupialization, as we wanted to remove the pathology in total with out leaving behind cyst wall. Subsequently, in view of recurrence, after due consultation with patient’s attendants, it was decided to go ahead with hemi mandibulectomy and reconstruction with free fibula.

#### **CONCLUSION:**

The diagnosis of dentigerous cyst is always confirmed on histopathological examination. The first line of management is enucleation/ marsupialization. Hemi mandibulectomy is reserved in case of recurrence or malignant transformation.

#### **REFERENCES**

1. Kirtaniya BC, Sachdev V, Singla A, Sharma AK; Marsupialization: A conservative approach for treating dentigerous cyst in children in mixed dentition. Journal of Indian society of pedodontics and pediatric dentistry. 2010; 28(3): 203-208.
2. Picciotti M, Di Vece L, Parrini S, Pettini M, Lorenz G; Replantation of tooth involved in

- 
- dentigerous cyst: A case report. *European journal of pediatric dentistry*. 2012; 13(4): 349-351.
3. Albanese M, Procacci P, Sancassani G, Nocini PF; Fresh frozen human bone graft to repair defect after mandibular giant follicular cyst removal: A case report. *Cell and tissue banking* 2012; 13(2): 305-313.
  4. Kompalli J S C, Chamarthi M, Rao GH; A case of dentigerous cyst in maxillary sinus presenting as proptosis. *Journal of Dr N T R University of Health Sciences* 2012; 1(3): 201.
  5. Yaseer N, Heba S; Decompression tube. *Egyptian journal of oral and maxillofacial surgery*. 2014; 5(1): 7.
  6. Eldibany RM, Shokry MM; The effect of Nanobone in combination with platelet rich fibrin on bone regeneration following enucleation of large mandibular cysts. *Tanta Dental Journal* 2014; 2(3): 302-304.
  7. Shubhangi M, Raju RT, Doshi JJ, Imtiyaz N; Dentigerous Cyst associated with impacted permanent maxillary canine. *People's Journal of Scientific Research*. 2009; 20: 17-20.
  8. Browne RM, Smith AJ; Investigative pathology of the odontogenic cyst. New Jersey: CRC press Boca Raton; 1991. Pathogenesis of odontogenic cysts; 1991; 88-109.
  9. MacDonald AW, Fletcher A; Expression of cytokeratin in the epithelium of dentigerous cysts and odontogenic keratocysts: an aid to diagnosis. *J ClinPathol* 1989; 42: 736-9.
  10. Deboni MC, Brozoski MA, Traina AA, Acay RR, Naclério-Homem MG; Surgical management of dentigerous cyst and keratocystic odontogenic tumor in children: a conservative approach and 7-year follow-up. *J Appl Oral Sci*. 2012; 20:282-5.
  11. Motamedi MH, Talesh KT; Management of extensive dentigerous cysts. *Br Dent J*. 2005; 198:203-6.
  12. Myoung H, Hong SP, Hong SD, Lee JI, Lim CY, Choung PH *et al.*; Odontogenic keratocyst: Review of 256 cases for recurrence and clinicopathologic parameters. *Oral Surg Oral Med Oral Pathol Oral RadiolEndod*. 2001; 91:328-33.