

## PERSISTING LESION “CAN YOU CHASE ME OUT”

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### ABSTRACT

Odontomas and residual cysts are the most common type of persisting lesions encountered and generally are asymptomatic. This paper describes cases of compound odontomas and residual cysts. In both cases, the surgical excision of the lesions was performed. The results achieved indicate that the early diagnosis of these persisting lesions allows the adoption of a less complex and expensive treatment and ensures better prognosis.

**KEY WORDS** Odontoma; Residual Cyst; OPG; Granuloma; Sutures.

### INTRODUCTION

The periapical cyst is a common sequela of periapical granuloma originating as a result of bacterial infection and necrosis of dental pulp. The majorities of cases of periapical cyst are asymptomatic and present no clinical evidence of their presence. The tooth is seldom painful or even sensitive to percussion. This type of cyst is infrequently of such size that it destroys much bone, and even rarely produces expansion of cortical plates. But if neglected for long time may undergo acute exacerbation of inflammatory process and may develop into large residual cyst or an odontoma.

A residual dental (or radicular) cyst arises from epithelial remnants stimulated to proliferate by an inflammatory process originating from pulpal necrosis of a non-vital tooth that is no longer present. The natural history begins with a non-vital tooth which remains in situ long enough to develop chronic periapical pathosis such as a dental (radicular) cyst. Eventually the tooth is extracted with little regard to the periapical pathosis which remains within the jaw bone as a residual dental cyst. Over the years, the cyst may regress, remain static or grow in size.<sup>1</sup>

Odontomas are considered to be developmental anomalies resulting from the growth of completely differentiated epithelial and mesenchymal cells that give rise to ameloblasts and odontoblasts. These tumors are basically formed of enamel and dentin but they can also have variable amounts of cementum and pulp tissue.<sup>2,3</sup> During the development of the tumor, enamel and dentin can be deposited in such a way that the resulting structures show an anatomic similarity to normal teeth, in which case the lesion is classified as a compound odontoma. However, when the dental tissues form a simple irregular mass occurring in a disorderly pattern, it is described as a complex odontoma.<sup>2</sup> Compound odontomas appear more frequently than complex odontomas.<sup>4,5</sup> This paper discusses two case reports for management of persisting lesions.

### CASE REPORT 1

A 28 year old female was referred to the department of endodontics by a general practitioner. The patient came with a big swelling on the palatal aspect. (Fig A) Patient had trauma 4 years back and had undergone acrylic crown placement for discolored tooth 21.



Fig A: Preoperative photo showing large palatal swelling

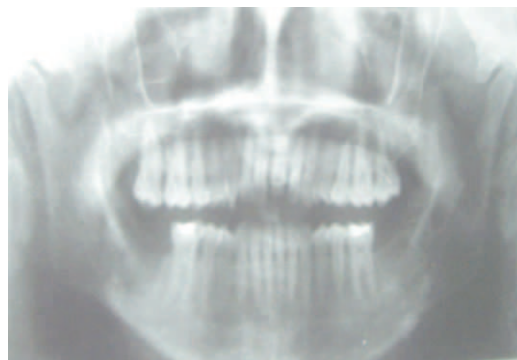


Fig B: Preoperative OPG

Periapical radiolucency was observed to be extending from 21 to 25. (Fig B). Pulp vitality tests using an electric pulp tester were done in #21, 22, 23, 24, 25. All the teeth were non vital. Routine endodontic procedure was done from 21 to 25. Purulent exudate was coming out only from 21 and dramatically swelling subsided after access opening in relation to 21, subsequently swelling developed after obturation. Surgery was performed after endodontic procedure.

During surgery under local anesthesia flap reflection was performed. The lesion was found to be extending well enough on labial side that was not diagnosed initially. Biopsy report confirmed the diagnosis of residual cyst. (Fig C)

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Fig C: Extent Of Lesion

The granulation tissue was removed using curettes (API). Removal of cystic lesion was done.(Fig D) The flap was repositioned and sutured using sling suture technique. Patient reported back asymptomatic after 3 months

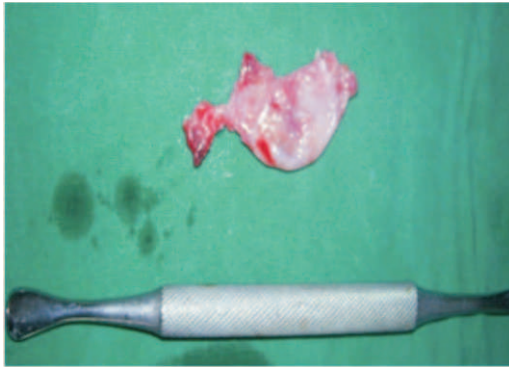


Fig D: Residual Cyst Removed

**CASE REPORT 2**

A 22 year old male patient came to the OPD with chief complaint of discoloration of teeth. On routine radiographic examination two odontomas were discovered in relation to 11, 12 and 21. (Fig E) All teeth were asymptomatic.

Pulp vitality tests using an electric pulp tester were done in the offending teeth. All the teeth were non vital. Routine endodontic procedure was done irt#11, 12, 21. (Fig F).

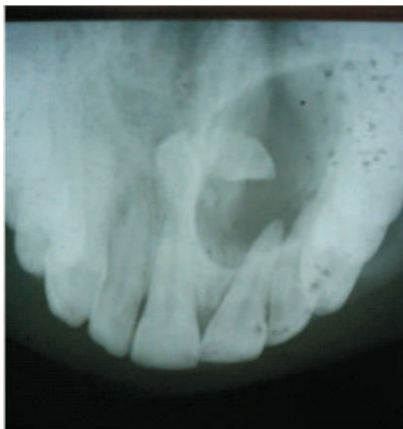


Fig F: Maxillary Occlusal X-Ray

Surgery phase involved flap reflection under local anesthesia. The lesion was located. The granulation tissue was removed using curettes (API). Removal of cystic lesion was done. The flap was repositioned and sutured using sling suture technique. (Fig G-J)



Fig G: Reflection Of Flap



Fig H: Locating Lesion

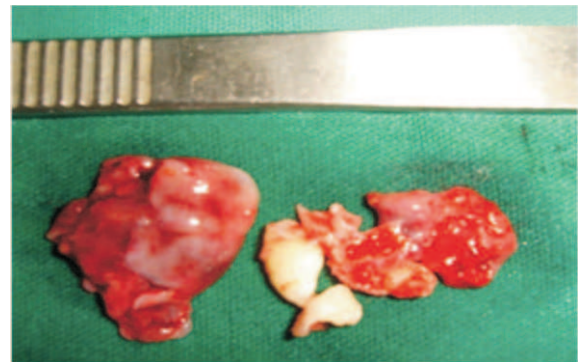


Fig I: Odontomas



Fig J: Placement Of Sutures



## DISCUSSION

Cystic lesions of the jaws are very commonly seen by the dentists and yet there are still many aspects which remain obscure or controversial. The British Standards Institution defines a cyst as 'an abnormal cavity within a tissue, the contents of which may be fluid or semi-fluid, but not pus, at least at the onset', and conventionally the benign cystic lesions occurring in the jaws are subdivided into odontogenic, fissural and bone cysts.<sup>5</sup>

Large odontogenic cysts within the jaws are uncommon, and when they do occur, they tend to be odontogenic keratocysts or dentigerous cysts. Residual dental cysts harbour an innocuous pathosis and are often discovered as incidental findings on routine radiographs. Unless infected, it is rare to find symptomatic residual dental cysts which will result in clinical signs or symptoms that will concern the patient enough to seek treatment.

Odontomas are the most common odontogenic tumors, comprising approximately 70% of all odontogenic tumors. The odontoma is perhaps more aptly defined as a hamartoma than a true neoplasm. Hamartomas are tumor-like lesions composed of an overgrowth of mature cells and tissues normally present in the affected part. The odontoma is most often associated with an unerupted or impacted tooth. The failure of a permanent tooth to erupt is the most common clinical manifestation. Because they are composed of more than one type of tissue, odontomas are considered mixed odontogenic tumors. They are commonly found alone or in association with one of the numerous other mixed tumors or dental abnormalities. Odontomas are usually detected in adolescents and young adults and are divided into two basic types--compound or complex.<sup>8</sup> There is no gender predilection and odontomas can occur at any age but mean age of occurrence is second decade. It is of interest to note that majority of odontomas in anterior segment of jaw are compound composite in type (61%) whereas the majority in posterior segment, are complex composite odontoma.<sup>9</sup>

Odontogenic tumors in general are relatively rare; however, odontoma is one of the most common of the group. Frequencies in geographic areas vary, but of odontogenic tumors examined in larger American, Canadian, and German populations, odontoma was most frequently reported--73.8%, 56.4%, and 57.8%, respectively. In a study of a Turkish population, 20% of the odontogenic tumors were odontomas. Phillipsen et al. reported the frequency of compound odontomas among odontogenic tumors was 9 to 37%, still citing it as the most common among odontogenic lesions/malformations.<sup>8,10</sup> Compound odontomas present clinically as small, multiple, immature, or rudimentary teeth on dental radiographs. Complex odontomas do not resemble tooth forms, but appear as indistinguishable radiopaque masses. Both types are composed of enamel, dentin, cementum, and pulp tissues and usually produce no symptoms. Compound odontomas present most often in the maxillary anterior region but can be found in any site. In contrast, complex odontomas are found primarily in the posterior aspect of the mandible and are sometimes larger than the compound type.<sup>2,3</sup>

Odontomas can be found in association with other dental abnormalities, such as the calcifying odontogenic cyst (COC). The COC is usually a unicystic lesion. About 20% display the features of COC with those of a small complex or compound odontoma. In a case involving a 14 year old male, Sikes, Ghali, and Troulis reported a complex odontoma found with a COC. Another case involving a 6-year-old male had included COC in the differential diagnosis of a lesion in which the authors reported as frequently being associated with odontomas.<sup>2</sup>

A presumptive diagnosis of compound odontoma is usually determined by radiographic appearance alone and is seldom confused with any other lesion. Clumped together, the radiopaque toothlets often exhibit a thin, radiolucent rim around the periphery. They are discovered on radiographs either incidentally or in search of a cause for a missing tooth. Complex odontomas, on the other hand, appear radiographically as more or less amorphous, solitary conglomerates, of calcified material. Larger, indistinct radiopacities--rather than tooth like structures--are usually apparent. They exhibit a haphazard arrangement of the dental tissues and are found primarily in the posterior aspect of the mandible. Unlike compound odontomas, complex odontomas are not diagnosed by radiographic appearance alone but require histologic verification. Other lesions included in the differential diagnosis are osteoma, ossifying fibroma, and cementoblastoma.<sup>10, 11</sup> Treatment for both forms of odontoma is usually surgical excision. Both compound and complex odontomas are well encapsulated and easily enucleated from the surrounding bone. There is general agreement that odontomas should be

excised due to the possibility of developing a dentigerous cyst or other neoplasms and the manner in which such tumors influence the growth and development of the bone and dentoalveolus.<sup>2,12</sup>

## CONCLUSION

The subject of cystic lesions of the jaws is one which still has many controversial aspects, particularly those associated with pathogenesis and classification. Many of the previous classifications appear to have introduced artificial separations by mixing pathogenetic distinctions with those associating the site of the lesion in relationship to teeth or absence of teeth. At the present time it seems that the varieties of fissural cysts have been over-estimated and that the main odontogenic cysts are the inflammatory or periodontal cysts and the keratocysts, either of these types being apical, lateral, residual or dentigerous depending upon their situation. The possibility of lesions like the odontoma and residual cysts supports the practice of recommending baseline radiographic surveys for all dental patients. Even in the apparent absence of caries or periodontal problems, the possibility of discovering lesions such as the odontoma or other abnormalities warrants exposing radiographs beyond a simple set of bitewing films. The dentist should thoroughly evaluate all areas in the survey, beyond bone level and caries, noting changes in trabecular patterns of bone, as well as other abnormal radiolucencies and radiopacities before commencing with its management.

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