

Case Series- Dentigerous Cyst

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Abstract

Dentigerous cyst is the most common developmental odontogenic cyst. Mainly two treatment modalities are there, enucleation or marsupialization. Treatment plan depends on the extent of the cyst, age of the patient, usefulness of involved tooth and the available space for its future eruption. Here is a series of three cases of dentigerous cyst treated in our department.

Introduction

The dentigerous cyst is the most common developmental true odontogenic cyst.¹ It originates after the crown of the tooth is completely formed and is formed due to accumulation of fluid between reduced enamel epithelium and tooth enamel surface.¹ It is almost always associated with the cemento enamel junction of the crown of involved impacted, embedded or unerupted permanent tooth.² The most common sites are mandibular and maxillary third molar and maxillary cuspid areas. It is usually asymptomatic unless infected. It has a potential to expand aggressively causing facial asymmetry, deflection and resorption of roots of adjacent teeth.³ Diagnosis is made after correlating clinical, radiographic and surgical findings. Only histopathological examination confirms the diagnosis. Here we are reporting series of three cases of dentigerous cyst treated with two different treatment modalities in the department of Oral and Maxillofacial Surgery, Sudha Rustagi College of Dental Sciences and Research, Faridabad.

Case 1

An 8 years old female patient reported to

our department with a swelling in back tooth region of left lower jaw since 3 months. The parents gave history of a slowly growing hard painless swelling.

Clinical examination revealed obliterated buccal vestibule from 73 to 36, grossly decayed 75. Buccal cortical plate was expanded and compressible, with no pain or discharge on palpation. On aspiration clear straw coloured fluid was drawn.

On radiographic examination a unilocular radiolucent lesion measuring 3cm X 2 cm (anterio-posteriorly to superio-inferiorly) involving crown of unerupted 35 was observed with expansion of buccal cortex. Caries in relation to 74 & 75 and resorption of mesial root of 36 was seen. (Fig.1)

Marsupialization of cyst was done under general anaesthesia and carious 75 was extracted.

Post-operative radiograph at 6 months follow up showed normally erupting 34 & 35 and healthy bone formation.

Case 2

A 9 years old male patient reported with a painless swelling in right upper jaw since 1 month. He presented with a history of occasional blood stained fluid discharge from right upper labial vestibular region.

Clinical examination revealed obliterated labial vestibule in relation to 12, 53. On aspiration a blood tinged clear fluid was drawn.

On radiographic examination unilocular radiolucent lesion measuring 1cm X 2cm was present involving crown of unerupted 13, root resorption of 12 and deflection of roots of 12 and 53 was present. (Fig. 2)

Marsupialization of cyst was done under general anaesthesia and 53 was extracted. Post-operative radiograph at 6 months revealed uneventful healing.

Case 3

A 14 -year-old female patient reported with swelling since 3 months causing facial deformity and pain since 3 days, in the right lower jaw.

The lesion showed aggressive behaviour, a negative history of paresthesia and no history of discharge. No other systemic ailment was present.

On intra oral clinical examination swelling in the right retromolar region was present. Overlying mucosa appeared normal in colour. It was firm, compressible and tender on palpation. On aspiration a straw coloured fluid was drawn.

On radiographic examination 'hollowing

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out' of right anterior border of ramus till 1cm below the coronoid process was seen. The lesion measured 4 cm X 2.5cm and encircled the crown of unerupted 48. Root resorption of root of 47 was observed. (Fig. 3)

Treatment rendered included enucleation of the entire cystic lining along with removal of 48 under general anaesthesia. The cavity was packed with iodoform gauze. The dressing was changed periodically until the size of the lesion reduced significantly. Histopathological examination of the excised contents revealed ameloblastoma.

Postoperative radiograph at 6 months follow up revealed uneventful healing. Patient is on long-term follow up with no signs of recurrence.

Discussion

Dentigerous cysts are more commonly seen in first decade of life but because of their association with maxillary cuspids and impacted mandibular third molar⁴ they can also be seen in second decade of life, age of eruption of these teeth.⁵ Although any tooth can be involved. Usually these cysts are asymptomatic with a potential to grow extremely large in size & causing cortical expansion and also failure of eruption of teeth.

Complication of long-standing cyst may include development of malignant changes, ameloblastoma, mucoepidermoid carcinoma.³

Since cysts can attain considerable size with minimal or no symptoms, early detection and removal of the cysts is important to reduce

morbidty. It is therefore important to perform radiographic examination of all unerupted teeth. An intraoral periapical radiograph, a panoramic radiograph and occlusal view are important diagnostic aids or more advanced imaging such as tomography which permits a better delineation of the extent of the lesion and its relationship to adjacent anatomical structures.

In this case series, diagnosis was based on history, clinical examination, OPG, occlusal radiograph, aspiration of cystic contents and histopathological examination of the excised cystic lining.

Dentigerous cyst has a thin fibrous wall with young fibroblast widely separated by stroma with overlying thin stratified squamous epithelium of 2-4 cell layers of flat or cuboidal cells.⁶ Histological findings confirm the diagnosis and malignant changes, if any.

Treatment plan depends on the eruption potential of teeth, extensiveness of the cyst, age of the patient, usefulness of tooth and the available space for eruption.^{7,8}

In first two cases conservative approach was followed to facilitate normal development and eruption of permanent teeth involved in the cyst.

In the third case involving ramus, complete enucleation of the cystic lining was done along with removal of unerupted 48.

The cases showed uneventful healing. They are on long-term follow up.

Conclusion

Mainly two treatment modalities are there,

enucleation along with extraction of the involved tooth/teeth or marsupialization of cyst with preservation of the impacted tooth guiding its eruption path. The treatment plan of dentigerous cyst is dictated by the size and extent of the lesion. Regular follow up is The requisite for both treatment modalities.

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