ACCIDENTAL FINDING OF DENTIGEROUS CYST IN RELATION TO MAXILLARY IMPACTED CANINE- A CASE REPORT

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ABSTRACT
Most common developmental odontogenic cysts are dentigerous cysts. They are usually derived from the epithelial remnants of tooth forming organs. Dentigerous cysts gradually increase in size. There may also be associated with bone resorption. Developmental odontogenic cysts account for 25% of all odontogenic cysts of the jaw. They are commonly associated with impacted or embedded teeth like mandibular/maxillary third molar and maxillary canines. It is always better to manage dentigerous cyst conservatively and thereby maintaining the vitality of adjacent structures.

INTRODUCTION
Jaws anchor a wide variety of cysts and neoplasms, due in large part to the tissues involved in tooth formation. Odontogenic cysts represent the most common form of cystic lesions affecting the maxillofacial region. Dentigerous cyst (DC) constitutes the most common developmental odontogenic cyst and accounts for approximately 25% of all odontogenic cysts of the jaws. Their frequency estimated in general population has been at 1.44 for every 100 unerupted teeth. Usually, no symptoms are found to be associated with DCs or unless there is an infection, in which case it is followed by a painful swelling. A late, non-eruption of tooth could suggest the possibility of an underlying cyst. A dentigerous cyst can expand causing facial asymmetry, bony expansion, tooth malpositioning, and sensitivity. As with other cysts, DC can cause cortical plate expansion, involvement of teeth and subsequent destruction of the tissues as it expands.

Third molars, canines, and second premolars are the teeth that are most commonly involved. Radiographically, DCs show typically unilocular radiolucency with a well defined sclerotic border. Histopathologic observations have shown that the lining of DC has the potential to develop into an aggressive ameloblastoma; therefore, early detection and removal of the cyst is required to prevent the foreboding complications associated with the lesion as the prognosis is excellent and recurrence is rare if completely removed.

CASE REPORT
A 23 year-old male patient reported to the Department of Oral and Maxillofacial Surgery with the chief complaint of gradually increasing intraoral swelling since 15 days in upper front teeth region. Patient revealed history of root canal treatment performed on maxillary right lateral incisor. Since 15 days he has noticed a buccal bulge over near upper right lateral incisor region. Initially, it was a small sized swelling which has gradually expanded and achieved a large size since 2 days with continuous mild pain in the upper right anterior region.

The intraoral periapical radiograph and CBCT revealed a root canal treated right lateral incisor with periapical radiolucency and slight radiopacity associated with it. CBCT also revealed maxillary right impacted canine (13) and also a periapical radiolucency about 1 cm × 1 cm associated with teeth and causing upward displacement of the maxillary sinus lining (Figure 1).

On the basis of history and clinical finding, a provisional diagnosis was considered as periapical cyst and the cyst enucleation with extraction of 12 and 13 was planned under local anesthesia. There was no significant medical history that influences the procedure and prognosis. For enucleation greater palatine, infraorbital nerve block and nasopalatine nerve blocks were administered with 2% Local anesthesia.
anesthesia with adrenaline (1:200000). Crevicular incision was given and the buccal full thickness mucoperiosteal flap was elevated to expose the area of lesion (Figure 2).

Existing cortical bone window was created and underlying pathology was exposed and sufficient space was made for thorough curettage. Care was taken in separating the lesion from the infraorbital nerve. Extraction of 12 and impacted canine (13) was performed and the lesion was removed into (Figure 3) and sent for histopathological examination.

Irrigation and debridement was carried with betadine and normal saline. Primary closure was done with 3-0 silk (Figure 4,5).

Post-operative instructions were given and the patient was prescribed antibiotics and anti-inflammatory drugs. After 1-week patient was recalled. Histopathological examination gives diagnosis of dentigerous cyst - a clinicopathological co-relation. Follow-up was done after 2 months which shows a normal buccal contour with no other complaints.

DISCUSSION

A Dentigerous cyst or follicular cyst is one of the most common type of developmental odontogenic cysts. As the term dentigerous literally means “tooth bearing,” they are associated with the crown of impacted, embedded, or partially erupted tooth 9.

Second or third decade is commonly associated with male population, and about 70% of cases are noted involving the mandible and 30% the maxilla 7.

Two types of dentigerous cyst are reported, namely, inflammatory and developmental in origin. Developmental type of cyst develops in a mature permanent tooth as a result of fluid accumulation, whereas the inflammatory counterpart develops in an immature permanent tooth 12.

The developmental histopathogenesis of dentigerous cyst is constructed on the bases of extrafollicular and intrafollicular theories. The extrafollicular theory of...
The epithelium of inflamed DC demonstrates hyperplastic epithelium with rete ridges and the fibrous cystic capsule with inflammatory infiltrate. Metaplastic changes are occasionally noted within the epithelial lining in the form of mucous-producing cells or secretory cells, such as goblet cells. Pseudostratified ciliated columnar epithelium has also been reported.

Treatment of DC depends on size, location, and disfigurement and often requires bone removal to ensure total removal of cyst especially in case of large ones. These cysts are frequently treated surgically, either by enucleation or by marsupialization. Marsupialization or decompression technique has been advocated widely for the treatment of DC in young patients. Marsupialization of cystic lining creates an accessory cavity to relieve intracystic pressure and accelerate the healing of the cystic lesion.

CONCLUSION

When a patient presents with bony swelling associated with any tooth, the differential diagnosis should be Dentigerous Cyst, radicular cyst, odontogenic keratocyst, ameloblastomas, odontogenic fibromyxoma, odontomas, and cementoma. Anomalous transformation within the cystic space is the most important factor to be considered during the treatment planning of these cases. Marsupialization is a preferred treatment modality especially in young children and long-term follow-up of cases treated with marsupialization usually reveals reduction in size of the lesion and normal eruption of involved teeth. But, in case of infected cysts, enucleation is a better choice of treatment to minimize disfigurement and to avoid complications.

REFERENCES

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