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Case Report

Dentistry Section

A Multidisciplinary Approach for a Mid-Palatal Swelling: A Case Report

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ABSTRACT

A dentigerous cyst is a developmental odontogenic cyst which originates through alterations in the reduced enamel epithelium due to unknown aetiologies. They are more commonly associated with permanent teeth. The association of this cyst with the supernumerary teeth is rare and it constitutes only 5%–6%. The possible transformation of these cysts into tumours directs the exact diagnosis and the timely management. We are reporting here, a case of a mid-palatal swelling which was caused by a dentigerous cyst, which was associated with an impacted canine.

Key Words: Dentigerous cyst, Palatal swelling, Enucleation, Splint

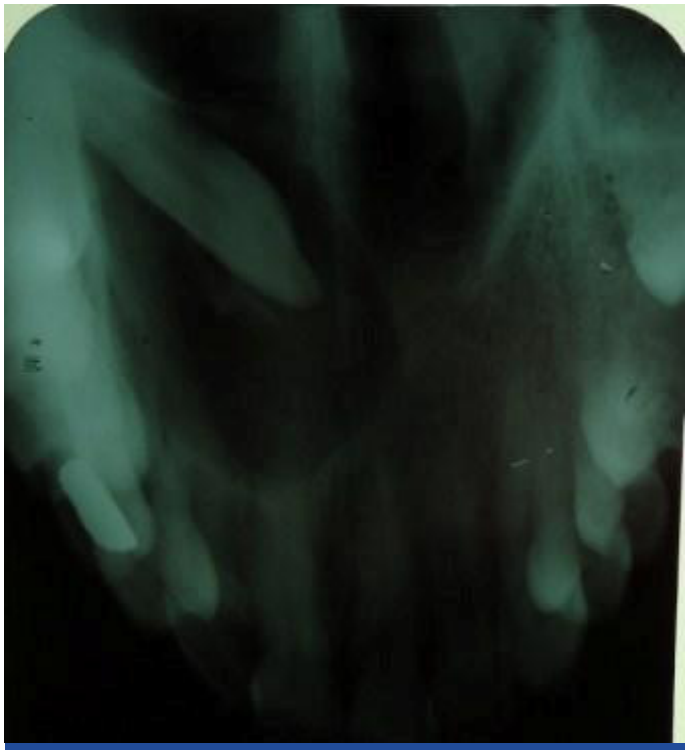
INTRODUCTION

A dentigerous cyst is a developemental odontogenic cyst which originates due to alterations in the reduced enamel epithelium in an unerupted tooth after the crown has been fully formed, resulting in swellings in the midline or the lateral and causing pain and discomfort to the patients. Such cysts may be associated with primary, permanent or supernumerary teeth. According to the review of the literature, 95% of these cysts are associated with permanent teeth and 5% are associated with supernumerary teeth. The incidence of supernumerary teeth is 8% in the primary dentition and 2% in the permanent dentition. It can occur in any of the first four decades of life but it occurs most commonly in the 2nd and the 3rd decades. It is generally managed by enucleation of the lesion but the factors which overall determine its management are the labial or the palatal positioning of the cyst, the age considerations of the patient, the operative feasibility, the orthodontic management [1], the future growth, the pshycosocial considerations and the implications of the canine extraction. Further, if the orthodontic treatment is planned, then the best methods are the incision and the attachment of the canines and the one arch versus the two arch treatment [2,3].

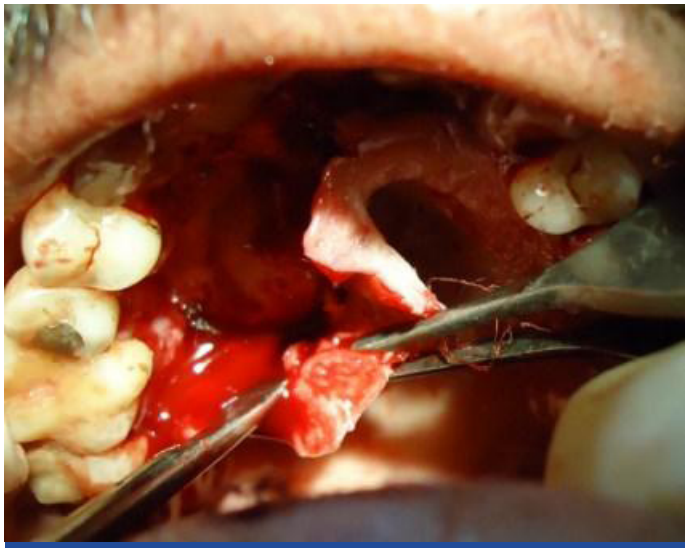
CASE REPORT

A 26-year old male reported with the chief complaint of swelling in the palate since 6 months. His medical history was non-contributory. There was no history of trauma to the patient. The patient said that there was a minor swelling in the anterior palate initially, which corresponded to the size of a peanut and that gradually it had increased to attain the present size. The swelling was not associated with any kind of pain but there was a slight discomfort on chewing. The extra-oral examination showed no significant changes. The intra-oral evaluation showed a clinically missing tooth #13. It was an oval shaped, solitary, unilateral swelling on the right side of the palate but it crossed the midline slightly, it measured 2.5cm in diameter, it was pink in colour with a bluish hue and its margins were well defined [Table/Fig-1]. On palpation, the swelling was found to be firm in consistency, with no tenderness and blanching on pressure. A vitality test was done for all the maxillary teeth which did not elicit an abnormal response in any tooth. An occlusal radiograph was taken, which showed a well defined, pericoronal, unilocular radiolucency which surrounded a radiopaque mass resembling canine [Table/Fig-2]. The differential diagnosis included various odontogenic and non-odontogenic cysts and tumours. The odontogenic cysts include lateral periodontal cysts, radicular cysts, odontogeic kertaocysts and dentigerous cysts. The other non-odontogenic causes include nasopalatine duct cysts, hard tissues and soft tissue tumours. An aspiration of the lesion yielded an amber coloured aspirate and this was sent for a biopsy. A provisional diagnosis of a dentigerous cyst arising from the tooth #13 was made. A pre-operative impression of the maxillary arch was made to make the splint. Under local anaesthesia, the palatal flap was reflected, which extended from the right maxillary central incisor to the right first molar. The cystic lining was differentiated from the surrounding areas after achieving haemostasis. Enucleation of the cyst was done in toto [Table/Fig-3 and 4]. An interdental suturing was done and the palatal splint was given [Table/Fig-5 and 6]. The patient was kept on antibiotics and anti-inflammatory drugs for 5 days.

[Table/Fig-1]: Preoperative intraoral view



[Table/Fig-2]: Pre-operative occlusal view

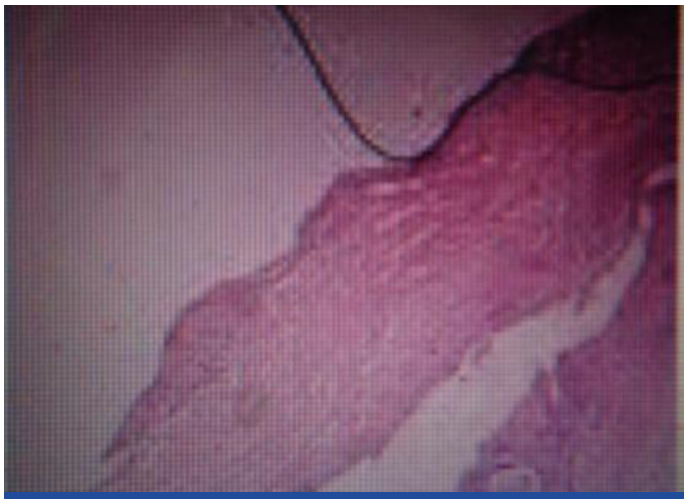


[Table/Fig-3]: Flap reflection

[Table/Fig-4]: After cyst enucleation

[Table/Fig-5]: Inter-dental suturing

[Table/Fig-6]: Palatal splint



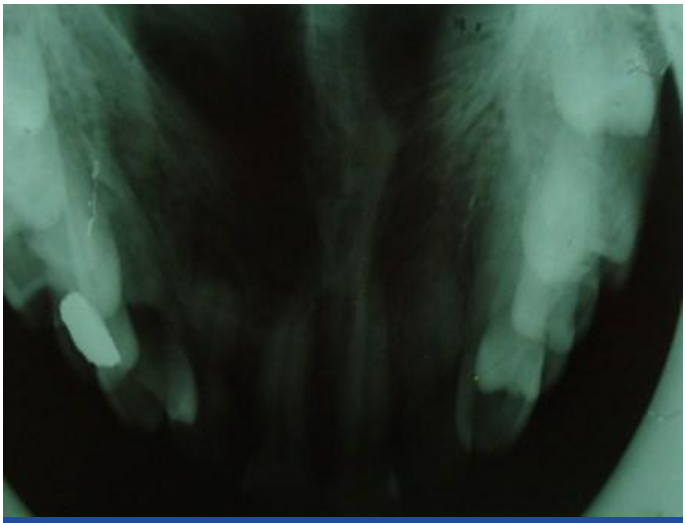
[Table/Fig-7]: Histopathological examination

The histopathological examination of the enucleated specimen revealed an odontogenic cystic lining which confirmed the diagnosis of a dentigerous cyst [Table/Fig-7]. A marked healing was seen clinically and radiographically on the follow up visits after 9 months [Table/Fig-8 and 9].

DISCUSSION

A dentigerous cyst is the second most common cyst in the oral cavity and it is mainly associated with the impacted, permanent, maxillary teeth. But the palatal swellings have to be differentially diagnosed with odontogenic nonodontogenic cysts, bony swel-

[Table/Fig-8]: Post-operative intraoral view after 9 months



[Table/Fig-9]: Occlusal view after 9 months

lings [4], neurofibromas, maxillary tori, tumours arising from the minor salivary gland and with mid palatal cysts which arise from the supernumerary teeth. The radiographically dentigerous cysts may be unilocular or multi-locular with well defined margins. They may or may not enroach the adjacent vital structures like the maxillary antrum, etc. The treatment of the dentigerous cysts depends on their size, location and disfigurement and they often require a variable bone removal to ensure their total removal, especially in cases of the large ones [5]. Thus, the treatment for dentigerous cysts is surgical removal [6]. The large cysts which encroach on the vital structures are first managed by marsupialization to reduce the cyst size, to facilitate the enucleation procedure. Because of the potential for the occurrence of an odontogenic keratocyst, an adenomatoid odontogenic tumour [7] or for the development of an ameloblastoma or a mucoepidermoid carcinoma, all such lesions, whenever they are removed, should be submitted for a histo-pathologic evaluation. The surgeries are further complicated by the ready displacement of the tooth into the maxillary sinus, the soft tissue of the infratemporal space, fractures and paraesthaesias [8]. Interdisciplinary decisions have to be made futher by the endodontists and the orthodontists like the salvaging of the tooth or the extraction, so as to maintain the overall harmonious occlusal relationships and by taking the age into consideration. A removable prosthesis is commonly required as a splint after the enucleation of the lesion.

CONCLUSION

An exact diagnosis with appropriate management, which includes a multidisciplinary approach, is a must for dentigerous cysts.

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