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Case Report

Impacted Inverted Supernumerary Tooth with Regional Odontodysplasia : A Rare Case Report

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ABSTRACT

Regional Odontodysplasia (RO) is a rare developmental disturbance of the teeth affecting the structure of the teeth. The etiology of RO is largely unknown however it is known to consist both the mesodermal and the ectodermal components. The occurrence of RO is twice common in the maxilla than in the mandible. RO most often is known to involve the maxillary central and lateral incisors. The prevalence of RO is rare thus available literature regarding the site and gender predilection, clinical manifestations and radiographic features is limited. Therefore, this case report is presented to provides an overview of the radiographic features of RO

Keywords: Ghost teeth; CBCT; Regional odontodysplasia

1 INTRODUCTION

RO is a developmental anomaly involving both mesodermal and ectodermal components of teeth.[(1)] RO was first reported by Hitchin.[(2)] The term "odontodysplasia" was coined by Zegarelli et al.[(3)] RO is also known by various names like odontogenic dysplasia, localized arrest tooth development, ghost teeth, odontogenesis imperfecta, unilateral dental malformation and familial amelodentinal dysplasia. RO affects both primary and permanent dentitions.[(4)] The occurrence of RO is twice common in the maxilla than in the mandible. RO most often is known to involve the maxillary central and lateral incisors.[(5)]

2 CASE REPORT

A 19-year-old male patient was referred for Cone Beam Computed Tomography (CBCT) of maxillary anterior teeth to the Department of Oral medicine and Radiology, Coorg Institute of Dental sciences for evaluation of periapical radiolucency. CBCT was taken for maxillary anterior region in Dentsply Sirona Orthophos SL3D 6679638 with an exposure parameter of 85kV and 10mA (FOV 5x5cm)

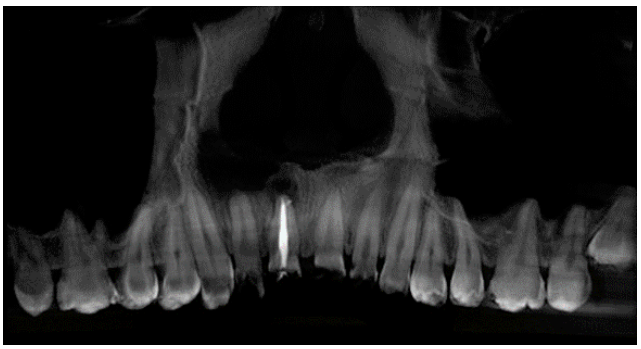

Fig. 1: Well defined radiolucent lesion seen at the periapical region of 11.

On examination there was a well-defined circular radiolucency present in relation to the periapical region of 11 measuring 9mm in diameter.It extends superioinferiorly from the floor of nasal cavity till the apex of 11, margins are well defined and devoid of cortication and internal structure

was completely radiolucent.

On further evaluation of slices for the extent and nature of the periapical pathology two impacted inverted supernumerary tooth was noted irt maxillary anterior teeth apical to 11,12 and 21,22

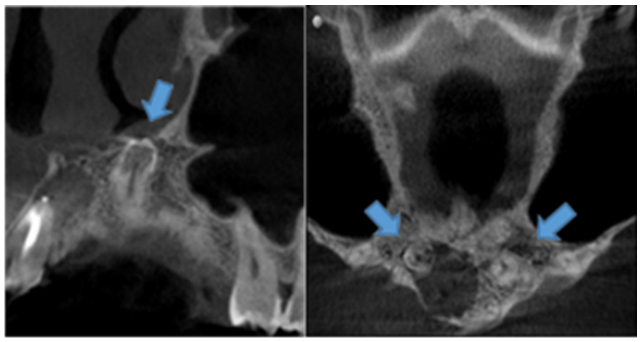

Fig. 2: Supernumerary tooth seen apical to roots of 11,12 and 21,22

Incidental finding on the CBCT Supernumerary tooth was present apical to 11 and 12 which was adjacent to radiolucent peri-apical lesion of 11. The crown appeared non-homogenous in density with thin outline of resorbed enamel and dentin and short and poorly demarcated root morphology with a "ghost like appearance". Pulpal space appeared widened. Radiolucency surrounding the tooth gives it an appearance of tooth floating in air.

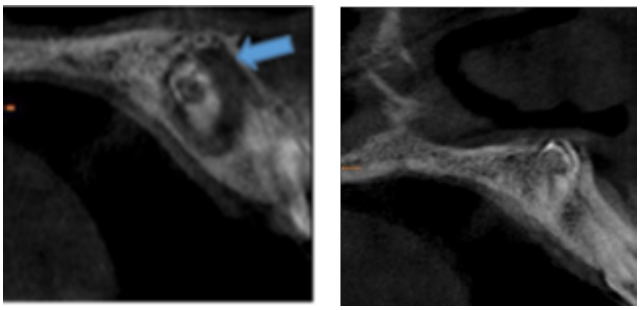

Fig. 3: Supernumerary teeth apical to 11,12 Figure 4:supernumerary teeth apical to 21,22

The supernumerary tooth apical to 21 22 also had a "ghost like appearance" similar to the other supernumerary tooth with thin enamel and resorption of underlying dentin and was placed in close proximity to the floor of the nasal cavity. No other teeth showed similar radiographic features.

Based on the radiographic evaluation a diagnosis of impacted inverted supernumerary teeth with RO was made along with dentigerous cyst associated with supernumerary tooth apical to 11 and 12. Extraction of supernumerary teeth and histopathological evaluation was advised. The patient was not willing for the surgical extraction and enucleation of the cyst which could have been subjected to histopathological evaluation.

3 DISCUSSION

RO is a rare developmental anomaly of unknown etiology. It occurs in both primary and permanent dentitions, with a marked preference for the maxilla.[5] In the present case odontodysplasia was noted in maxillary arch which is similar to the most of earlier reported cases.[1,3,6] The criteria of diagnosis of RO are mainly clinical and radiographic. Clinically affected teeth have an abnormal morphology and irregular surface contour with pitting and grooved surface. The teeth may appear to be hypoplastic, hypocalcified and discoloured. In the current report impacted teeth was affected thus radiographic findings were considered for diagnosis.[7] RO seems to be more prevalent in females unlike in present case that affected was a male[8] Radiographic features of odontodysplasia includes "ghost-like" appearance of affected tooth due to reduced thickness and radiodensity of enamel and dentin, absence of demarcation between hypomineralized dentin and hypomineralized enamel and the teeth tend to be shorter, have short roots with wide open apices and abnormally wide pulp chambers and canal which was also noted in current case. There are multiple therapeutic approaches for the management of this anomaly which includes a more conservative approach, by the use of restorations to protect permanent teeth or simply long-term follow-up until the skeletal growth is complete, to immediate extraction of affected teeth, followed by prosthetic rehabilitation.[8] In the present case, due to impacted and inverted placement of teeth with the presence of cystic pathology that was suggestive of a dentigerous cyst, extraction of the supernumerary teeth along with enucleation of the cyst and histopathological examination was preferred.

4 CONCLUSION

This case illustrates the classical radiographic features of RO. Although several cases have been reported, the literature is still limited to paediatric cases and till now there are no cases of impacted inverted supernumerary tooth affected with RO. Therefore this case report provides dentists an insight about the radiographic features of RO and various therapeutic approaches based on degree of the anomaly, the functional and esthetical needs of each case.

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