Case report

Dens Evaginatus involving multiple primary teeth: A rare case report

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Abstract

This case report describes the anomalous development of Primary maxillary central incisor and mandibular first molars in a two-year-old Chinese boy. The primary maxillary central incisor radiographically demonstrated anomalous development characteristic of dens evaginatus. Similar findings were evident on Primary right and left mandibular first molars. Dens evaginatus is a condition that most commonly exhibited by protrusion of a tubercle from occlusal surfaces of posterior teeth, and lingual surfaces of anterior teeth. Although often observed, these anomalous teeth present some challenges to the dental practitioner. Morphologically anomalous cusp-like protrusions are susceptible to pulp exposure from wear or fracture because of malocclusion, leading to pulpal complications soon after eruption. This article illustrates a case in which a child demonstrated extra cusp in relation to primary maxillary central incisor and mandibular right and left first molars suggestive of dens envaginatus. The many challenges associated with the presence of such teeth are discussed

Keywords: Central incisor, Dens evaginatus, Primary molars, Talon's cusp

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Introduction

Dens evaginatus (DE) is a developmental malformation of crown shape occurring in the early stages of dental development before the mineralization of hard tissues. It is a phenomenon resulting from the outward folding of the inner enamel epithelial layer into the stellate reticulum of the enamel organ and transient focal hyperplasia of the primitive pulpal mesenchyme during the morphodifferentiation stage of the tooth development.[1] This anomaly has more commonly been reported in the permanent dentition with prevalence ranging from 0.06−7.7%. The total number of reported cases in the primary dentition worldwide is only 39 and the affected primary teeth may be maxillary central and lateral incisors and mandibular molars. It occurs in both genders and may be unilateral or bilateral.[2]

Case Report

A two-year-old Chinese boy reported, along with his mother, to the Pediatric dentistry department of Oral Health care Centre, SEGi University, Kota

Damansara, for a routine dental check-up. The child had a normal medical history and his family history was noncontributory. On physical examination, he appeared to be of appropriate stature and weight and in no apparent distress. Intraorally, presence of an extra cusp in the form of a tubercle projecting from the palatal aspect of crown of primary maxillary right central incisor (Talon's cusp) was seen (Figure 1) and also small accessory cusp-like structure-arising from the occlusal surface of the mandibular right and left first molar teeth. (Figure: 2 & 3) Radiographic evaluation of the central incisor revealed an abnormally shaped radiopaque structure composed of normal enamel and dentin and with pulp extension. (Figure: 4)

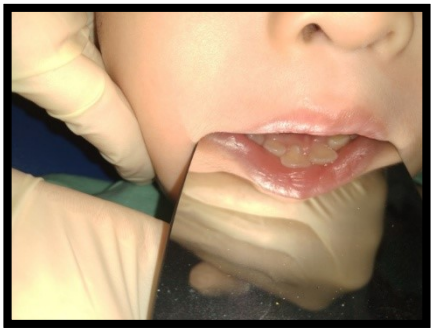

Figure 1: Primary maxillary right central incisor (Talon's cusp)

Figure 2 & 3: Primary mandibular right & left first molars

Figure 4: Periapical radiograph of primary maxillary right central incisor (dens evaginatus)

Based on clinical and radiographic examination, treatment plan was discussed the parent. A follow up appointment was scheduled in 3 months. As patient was 2 year old without any symptoms, it was decided to do the trimming of palatal cusp tip (Talon's cusp) after 6 months and follow up for evaluation of mandibular first molars.

Discussion

Dens evaginatus was first described in a human tooth by Mitchell in 1892. The term 'talon' was coined by Mellor and Ripa because of its characteristic resemblance to an eagle's talon in 1970 and this anomaly has been more frequently reported in the Asian population. The first reported case in primary dentition is by Sawyer et al. (1976).[3, 4]

There is a wide variation in the size, shape and location of these anomalies. Due to this variation, accessory cusp found on maxillary or mandibular anterior teeth is often referred to as Talon cusp and accessory cusp which is found on occlusal surface of premolar or molar is referred to as dens evaginatus. The exact etiology of these variations is not clear. However, the probable role of genetics and environmental factors, such as trauma or other local factors affecting the tooth germ have been suggested. Small talon cusps are asymptomatic and require no intervention. Large talon cusps may cause clinical problems including occlusal interference, irritation of the tongue during speech and mastication.[1, 5, 6]

Although it has been mentioned that the occurrence of central cusps in primary dentition is rare but there is no evidence to justify this statement. Most of the reported reviews were on presence of Talon cusps on permanent and primary dentitions and also on dens evaginatus on permanent dentition. Very few cases have been reported on dens evaginatus on primary molars. It is important to monitor regularly, the occlusion during the eruption of tooth with

talons cusp as well as their opposing teeth in order to prevent potential crossbite.[7, 8, 9]

In this present case report, we found that the accessory cusp is centrally situated bilaterally and the cuspal tips extended above the level of adjacent cusps. Based on the clinical presentation, it was assumed that the cause of this formation is similar to dens evaginatus. The bilateral occurrence of these extra cusps along with talons cusp on the palatal aspect of right central incisor is suggestive of dens evaginatus.

Conclusion

Although these additional cusps are rare, their presence may complicate the process of routine oral health care. Generally patients may not report for the treatment of dens evaginatus as it does not present with clinical symptoms always. It is diagnosed either during routine dental checkup or investigating for other complaints. Hence clinician must examine every patient thoroughly so that dental anomalies may be detected early and properly treated. Early detection may reduce the future complications such as cusp fracture, attrition leading to pulp exposure, tongue irritation, damage to periodontium due to excessive occlusal force etc. This patient has been placed under periodic follow up, which includes monitoring of the occlusion and tooth vitality.

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