Case Report

Talon Cusp In A Primary Tooth

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Abstract

The occurrence of talon cusp is an uncommon developmental dental abnormality with an incidence ranging from less than 1% to 8%. The majority of the reports show that permanent dentition have been involved three times more often than the primary dentition. This is a case report of a boy aged 8 years who reported to Department of Pediatric and Preventive Dentistry, with a complaint of malpositioned upper left primary central incisor also causing esthetic problems. On examination the tooth was found to have a talon cusp. The case was discussed and a decision taken to extract the primary tooth to allow for the normal eruption of the succedaneous tooth.

Keywords: Primary central incisor, talon cusp, developmental dental abnormality

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Introduction

Talon cusp is an uncommon, developmental dental abnormality showing a cusp like accessory structure varying in size from a prominent cingulum to a marked projection affecting the lingual surface of the maxillary and mandibular teeth. [1]The talon cusp, so named because its shape resembles an eagle's talon, (Mellor & Ripa 1970). Synonyms of talon cusp are dens evaginatus, interstitial cusp, tuberculated

premolar, odontoma of axial core type, evaginated odontoma, occlusal anomalous tubercle and supernumerary cusp.[2] It has been suggested that disturbances during morphodifferentiation might affect tooth size and shape. Radiographically talon cusp is visible as two radio opaque lines converging from the cervical area of the affected tooth towards the incisal margin. Histologically, this extra cusp is composed of normal enamel and dentin and may or may not contain a pulp tissue.[3]

Hattab et al classified this anomaly into 3 types on the basis of the degree of cusp formation and extension. [4] Type I (talon) has an additional cusp that projects from the palatal surface of an anterior tooth and extend at least one half the distance from the cemento enamel junction to the incisal edge. Type II (semitalon) has an additional cusp 1 mm or more in length but extending less than one half the distance from the cemento enamel junction to the incisal edge. Type III (trace talon) manifest enlarged and prominent cingula and their variation. The majority of reports about the talon cusp show that the permanent dentition has been involved three times more often than the primary dentition. The incidence of talon cusp varies considerably among populations, ranging from less than 1% to 8%, but the etiology still remains unknown and it exhibits a higher incidence in males than females at a ratio of 16:9.[4] This developmental anomaly may cause multiple clinical problems, such as: occlusal interferences, esthetic disturbances, accidental cusp fracture leading to loss of pulp vitality, irritation of tongue during speech and mastication, nursing difficulties, caries and displacement of the affected tooth.[5]

Increased incidence of talon cusp has been observed in patients with orofacial digital II syndrome, Rubinstein Taybi syndrome,

Incontinenia pigmenti achromians and Alagilles syndrome. [6] It is associated with other odontogenic anomalies such as peg laterals, supernumerary teeth, dens evaginatus, agenesis and impaction. [7,8]

About 75% of the published studies describe talon cusp in the permanent incisors mostly in the maxilla and the teeth most commonly involved are lateral incisors, followed by central incisors and canines. Abbott and Dunn reported two cases of permanent teeth with talon cusps on both the labial and palatal surfaces. [9]

Case Report

A boy aged 8 years presented to the Department of Pediatric and Preventive Dentistry with a complaint of malpositioned upper left primary central incisor also causing esthetic problems. The patient's medical and family history was unremarkable. Extraoral examination presented no significant abnormality. [Figure–1].

Figure- 1 Extra oral view

Intraoral examination revealed a mixed dentition and well-maintained oral health. The soft tissues appeared normal and the primary left central incisor was distolabially rotated with the presence of talon cusp on the palatal side. The tooth was asymptomatic [Figure – 2, 3].

Figure- 2 Pre operative facial view showing distolabial rotation of primary maxillary left central incisor

Figure- 3 Preoperative palatal view

The primary right central incisor also showed preshedding mobility. Intra oral periapical radiograph revealed an inverted, well defined, V – shaped radio opaque structure arising from the cingulum of the central incisor. The tooth was distolabially rotated and did not show any evidence of physiologic root resorption, whereas the contralateral central incisor exhibited normal physiologic root resorption. [Figure - 4].

Figure- 4 Preoperative radiograph

Since the primary maxillary left central incisor did not show any evidence of root resorption and was interfering with the eruption of the succedaneous permanent incisor, decision was taken to extract the tooth. This would allow for the normal eruption of the permanent left central incisor. The primary tooth with the talon cusp was extracted under local anesthesia. [Figure - 5].

Figure- 5 Extracted tooth with talon cusp

Discussion

Talon cusp has been reported as a very rare dental anomaly with multifactorial etiology including both genetic and environmental factors. Various theories were proposed, however most accepted one suggests that talon cusp might occur as a result of an outward folding of inner enamel epithelial cells and a transient focal hyperplasia of mesenchymal dental papilla.[2] Any tooth may have an evagination but most of the cases involve the maxillary lateral incisor followed by central incisor, premolars, canines and molars with some instances of bilateral involvement and has been reported to be rare in the mandible.[1] So far

in the literature 21 cases of talon cusp in primary central incisors have been reported. [3] It is clinically difficult to establish an accurate diagnosis without radiographic examination. The suspicion arises from atypical morphology of the tooth crown or eruption difficulties of the suspected tooth. Data on the prevalence of talon cusp, criteria for categorization, association with other dental abnormality and management are insufficient. The treatment of talon cusp may be conservative or radical, depending on the accessory cusp like shape, location, size, and tooth affected. Periodic and gradual reduction of the cusp, with application of a desensitizing agent or, reduction of cusp with or without endodontic therapy, sealant application on the grooves, and esthetic restorations are options of treatment. Ferraz J AB (2001) advocated that occlusal interferences of talon cusp can be adjusted by grinding palatal projections, and Extraction being the last treatment option.[2] Treatment may differ, depending on each case. Small talon cusps are usually asymptomatic, necessitating no treatment. However, large prominent talon cusps necessitate definitive treatment. [1,2]

The clinical problems associated with this case were malpositioning of the primary left central incisor, causing esthetic as well as occlusal interferences and the radiograph revealed absence of physiologic root resorption interfering with the normal eruption of the permanent succedaneous tooth. Considering the age of the patient, and the problems associated with it, extraction was considered as the treatment of choice. The association of talon cusp with other dental abnormality suggests that this anomaly is not an isolated trait. A correct and early diagnosis and treatment is important, especially during the patient's formative years to prevent the complications.

References

1) Tulunoglu O, Cankala DU, Ozdemir RC. Talon's cusp: Report of four unusual cases J Indian Soc Pedod Prev Dent 2007: 25:1:52-55.

2) Nayak M, Kumar J, Prasad KL. Dens Evaginatus (Talon Cusp) Of Anterior Teeth - A Case Report. Endodontology, medind.nic.in /eaa/t09/iz/eaat09i2, P88

3) Yoon R K, Chussid S, Dental management of a talon cusp on a primary incisor pediatric incisor pediatric dentistry 2007: 29(1) :51-55

4) Hattab FN, Yassin OM, al-Nimri KS. Talon cusp in permanent dentition associated withth other dental anomalies: review of literature and reports of seven cases. J Dent Child 1996;63(5):368-376

5) Güngör H, Altay M, Kaymaz F. Pulpal tissue in bilateral talon cusps of primary central incisors: report of a case. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2000;89:231-235.

6) Chatterjee M, Manson C. Talon cusp presenting in a child with Alagille's syndrome - A case report . J Clin Pediatr Dent 2007;32(1):61-63

7) Hegde S, Kumar B R. Mandibular talon cusp: report of two rare cases. Int. J. Paediatr Dent 1999; 9(4):303-306.

8) Nadkarni UM, Munshi A, Damle SG. Unusual presentation of talon cusp: Two case reports. Int J Paediatr Dent 2002;12(5):332-335.

9) Siraci E, Gungor H C, Taner B and Çehreli ZC, Buccal and palatal talon cusps with pulp extensions on a supernumerary primary tooth. Dentomaxillofacial Radiology (2006) 35, 469-472.