Talon Cusp: A Rare Finding During Periodontal Examination- A Case Report.

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Abstract:
Talon cusp is a relatively rare dental developmental anomaly characterized by the presence of an accessory cusp like structure projecting from the cingulum area or cementoenamel junction.It occurs in both primary and permanent dentition and is more common on the palatal surface of the permanent maxillary incisors.
Key Words: Talon's cusp, Central incisor, Permanent teeth.

Introduction

Talon cusp was first recorded by Mitchell in 1892.[1] As its shape resembles an eagle's talon it was named as talon's cusp in 1970.[2]It is an uncommon dental anomaly that occurs as an accessory cusp like structure projecting from cingulum area or cementoenamel junction of maxillary or mandibular anterior teeth in either the primary or permanent dentition.[3] Other synonyms include dens evaginatus, occlusal enamel pearl, and supernumerary cusp.[4]Most commonly involved are the maxillary teeth (94%), with 55% prevalence in maxillary lateral incisors followed by maxillary central incisor (33%). Talon cusps is more common in males(65%) as compared to females.[5]This evagination is often described as a nodule or tubercle, shaped as a cylindrical cone with a sharp point or a raindrop.[6]It is composed of normal enamel and dentin and may or may not contain pulp tissue.[3]

Case-Report

A 22 years old male patient reported to the Department of Periodontology, Subharti Dental College & Hospital, Meerut with a chief complaint of malaligned upper front teeth. His medical and dental history was non contributory. Intraoral examination depicted buccally slight proclination of central incisor (Fig.1).On close examination of the involved tooth a well-delineated accessory cusp was present projecting from the palatal surface of left maxillary central incisor extending half way from cemento- enamel junction to the incisal edge (Fig.2).Study model showed the cusp to be about 4mm wide mesiodistally, 8mm cervico-incisally and 3 mm thick labiolingually (Fig.3).There was no family history regarding this anomaly.

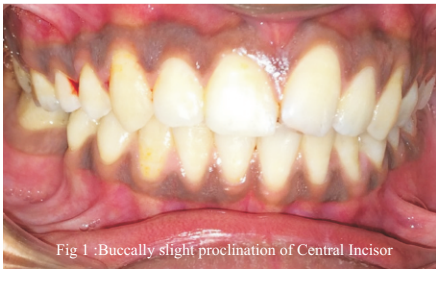
Fig 1 :Buccally slight proclination of Central Incisor


Fig 2 :V-Shaped conical prominent cusp on permanent maxillary Central Incisor

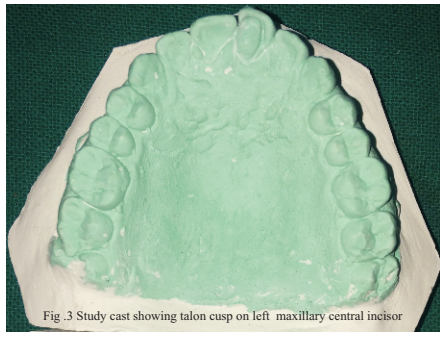
Fig .3 Study cast showing talon cusp on left maxillary central incisor

Discussion

Talon cusp or dens evaginatus is a rare dental anomaly associated 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 mesenchymaldental papilla.[7]Hattab's et al[8] classified anomalous cusp into 3 types, based on the height of the projection. Type-1 True taloncusps, described as well-delineated projections from the palatal surface of primary or permanent anterior teeth and extending at least half the distance from the cemento-enamel junction to the incisal edge. Type-2 Semi talon cusps when the projection is of a millimeter of more , extending less than half the distance from the cementoenamel junction to the incisal edge. Type-3 trace talon cusps which are prominent cingula, and vary in shape (conical, bifid, or tubercle). This case report is of type 1 talon cusp.

When talon cusps are small no treatment is required as they are asymptomatic where as large prominent cusps may cause problems for the patient, as well as for dentist in diagnosis and treatment planning.[2]Occlusal interference, displacement and rotation of teeth, dental caries, periodontal problems, tongue irritation during speech and mastication, compromised esthetics are the most common problems associated with talon cusp.[9]Careful clinical examination is required for the treatment of talon cusp and treatment depends upon whether the pulp horn either present or absent in the cusp.[3]Histological examination of ground sections of three extracted or exfoliated taloned teeth failed to reveal a pulp extension into the anomalous cusp.[10] Clinically, talon cusp differs from dens evaginatus of posterior teeth. Shearing forces in anterior teeth may results in displacement of the occluding teeth and significantly less fracture of the anomalous cusp as reported in this case, whereas in posterior teeth, attrition or fracture at much higher rate than talon cusp is common as the anomalous cusp on the occlusal surface is subjected to direct occlusal forces.[11]Adjustment by grinding the palatal projections were advocated by Ferraz JAB[12] when talon cusp interfere occlusally. Various treatment options for talon cusp are: application of fluoride or desensitizing agents and restoring tooth morphology or complete removal of tooth.[13]

Conclusion

Early diagnosis may minimize various local problems like caries, periodontal disease and malocclusion. Talon cusp is a not an innocuous defect, as it may provide a substantial challenge during diagnosis and treatment planning to clinician.

References

References are available on request at editor@healtalkht.com