

MANDIBULAR TALON CUSP A CASE REPORT

ABSTRACT

Talon cusp is a relatively rare developmental dental anomaly, characterized by cusp-like projections from the cingulum area, or cemento-enamel junction of maxillary or mandibular anterior teeth, in both the primary and permanent dentition. In most of the cases it involves maxillary lateral incisors. The anomaly has been reported to be rare especially when it occurs on mandibular teeth. This article reports a case of talon cusp on permanent mandibular central incisor, which makes it a rare entity.

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KEYWORDS

Dens evaginatus. Talon cusp. Mandibular central incisor.

INTRODUCTION

Mitchell¹ in 1892 was first to describe talon cusp, a rare dental anomaly. The term talon cusp was coined by Mellor and Ripa² due its resemblance to an eagle's talon. The prevalence of talon cusp is low, with an incidence ranging from 0.06%³ to 8%⁴ in different population. It is composed of enamel, dentin and a varying amount of pulp tissue. The exact etiology is unknown, and it is suggested that genetic and environmental factors play important role.⁵ Talon cusp usually affects the maxillary incisor teeth and talon cusp of the mandibular incisors is extremely rare.⁶ This presentation reports a very rare case of talon cusps on permanent mandibular central incisors.

CASE REPORT

A 52-year-old male reported to Department of Oral Medicine and Radiology, for a routine dental check-up. The patient's medical history, family history and dental history was not significant. On intra-oral examination, one extra cusp in the form talon was present on the lingual surface of the mandibular right central incisor (Figure 1). The talon shaped cusp had smooth surface with gradual merging with adjacent tooth structure, with no irritation tongue. Patient also did not report any interference with speech and mastication. The tooth appeared T-shaped when viewed incisally. Intra oral

periapical radiograph revealed an inverted V-shaped radiopacity superimposed on coronal pulp chamber of mandibular right central incisor (Figure 2). The extent of pulp tissue into the cusp could not be determined on the periapical radiograph due to this superimposition. A diagnosis of type 1 talon cusp was made, according to Hattab's classification.⁵ As the talon cusp did not interfere with any function, only the periodic follow was advised to the patient.

DISCUSSION

Davis and Brook⁷ (1986) defined talon cusp as an additional cusp that predominantly projects from the lingual surface of primary or permanent anterior teeth and is morphologically well defined and extends at least half the distance from the CEJ to the incisal edge. Due to huge variation in its size and shape, Hattab et al. has classified Talon cusp into three types. Type I (true talon)-well delineated additional cusp that prominently projects from the palatal surface of a primary or permanent anterior tooth and extends at least half the distance from the cemento-enamel junction to the incisal edge). Type II (semi talon)-additional cusp of 1 mm or more that extends less than half the distance from the cemento-enamel junction to the incisal edge and blends with the palatal surface or stands away from the crown). Type III (trace talon)-enlarged or prominent cingulum with

variations such as conical, bifid, or tubercle like).⁵

Figure 1. Photograph showing talon cusp on lingual surface of mandibular right central incisor.



The exact etiology is not known, but a multi-factorial etiology including combination of environmental and genetic factors has been suggested for this anomaly.⁵ The occurrence of talon cusp in close family members has suggested a strong genetic influence.⁸

It is more common in the permanent dentition (75%) than in the primary dentition. Overall in both the dentition, maxillary teeth (92%) are affected more than mandibular as maxillary lateral incisor is the most frequently

affected in the permanent dentition, while the maxillary central incisor is the most affected in the primary dentition.⁵ Reports of the mandibular talon cusps are rare in the literature, including the present case, only 16 cases have been reported.⁶

Talon cusp may occur as an isolated finding and or may be associated with other anomalies such as mesiodens, complex odontome, macrodontia, unerupted or impacted teeth, peg-shaped maxillary incisor,

dens invaginatus.⁹ It has been reported frequently with syndromes like Sturge-Weber syndrome (encephalotrigeminal angiomatosis), Rubinstein-Taybi syndrome, Mohr syndrome (orofacial-digital II), incontinentia pigmenti achromians syndrome, Ellis-van Creveld syndrome More Details, Alagille's syndrome and Berardinelli-Seip syndrome.⁶ This case presented as an isolated finding of talon cusp with no local or systemic syndromic condition.

Figure 2. Intra-oral periapical radiograph shows inverted V-shape radiopacity on coronal portion of mandibular right central incisor.



Radiographically, it appears typically as a V-shaped radiopaque structure superimposed over normal crown, originating

from the cervical third of the root. As it is the extension of normal tooth structure, it is composed of enamel, dentine, and a varying amount of pulp tissue, the extent of pulp extension into the cusp is however difficult to determine because of its superimposition over the main pulp chamber.⁸

The complications of talon cusp include aesthetic, diagnostic, functional, and pathological. A large talon cusp gives unaesthetic appearance to tooth. Diagnostically, it may resemble a compound odontome or a supernumerary tooth on radiograph, when unerupted. It may lead to occlusal interference, displacement of teeth, trauma to the lip and tongue, and speech problems and if it get involved by caries, it may leads to periapical pathology.²

Management of talon cusp depends on the complications associated with its presentations; there is no need of treatment in case of a small asymptomatic talon cusp. In cases where the deep developmental grooves are presents, Simple prophylactic measures like fissure sealing or composite restoration can be done if deep developmental grooves are present. In case of occlusal interference, the bulk of the cusp is gradually and periodically reduced with topical fluoride application, to reduce sensitivity and stimulate reparative dentine formation. In some cases it is necessary to reduce the cusp completely followed by root canal treatment. If tooth

displacement or malalignment of affected or opposing teeth is present, orthodontic correction can be done.¹⁰

CONCLUSION

Mandibular talon cusp is an uncommon clinical presentation. Most cases occurs as an isolated findings as in the present case; the patient did not give a history of its occurrence in any family member. The present case is a type 1 talon cusp. In the present case, the cusp was prominent and sharply defined and projected from the lingual region to the incisal edge of the tooth. The condition was asymptomatic as the patient did not complain of any discomfort and was less concerned. The patient was kept under regular follow-up.

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