Multiple Talon Cusps: A Rare Case Report

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INTRODUCTION

Dens evaginatus is a developmental anomaly characterized by the presence of an extra cusp. It occurs more frequently in mandibular premolars. The prevalence of talon cusp ranges from 0.06% to 7.7%.1,2

This unusual dental anomaly seen an accessory cusp like structure projecting from the cingulum to the cutting edge. This was first described in 1892 by Mitchell.4 Based on its resemblance to an eagle’s talon, Mellor and Ripa5 aptly named it as talon cusp.

The dens evaginatus originates on the cingulum as a tubercle projecting from the palatal surface of canines and incisors. The anomaly rarely appears over the labial aspect of the tooth.6,7

The shape, size, and location of talon cusp may vary from a slight tubercle-like projection to a well-delineated prominent cusp extending from the cemento enamel junction to the incisal edge in both primary and permanent dentition.7

The exact etiology is unknown. Based on the studies it is suggested to be a combination of both genetic and environmental factors. It is thought to arise during the morpho-differentiation stage of tooth development, as a result of out-folding of the enamel organ or hyper productivity of the dental lamina.8,9 Maxillary lateral incisors (67%) are the most commonly involved teeth, followed by central incisors (24%) and canines (9%).9

It is comprised of enamel, dentine, and a varying amount of pulp tissue. The anomaly is mostly seen unilaterally with 1/5th of cases being bilateral.10 We report a very rare case of multiple talon cusps (dens evaginatus) involving all the maxillary anterior teeth.

CASE REPORT

The 27-year-old male patient reported to the Department of Oral Medicine and Radiology with a chief complaint of pain in his upper front teeth region since 5 days. History revealed that the pain was of sudden onset, mild, continuous, aggravated on taking hard food and relieved on taking medication. Patient gave a history of trauma to the same region 2 years back, and there was no history of swelling. No significant medical and personal history was contributory.

On general physical examination, patient had a normal gait, moderately built and nourished with no other abnormalities (Figure 1).

Intraoral examination revealed presence of a discolored tooth with Ellis Class II fracture (Figure 2) with tenderness on vertical percussion in relation to 21. Vestibular obliteration and tenderness in relation to 11, 12, 21 and 22. An anomalous cusp-like structure was observed on the palatal surface of 13, 12, 11, 21, 22, and 23 (Figure 3), that extended from the cervical margin of the teeth towards the incisal edge. Gingival recession was present in relation to 31 and 41.

Based on the history and clinical examination a provisional diagnosis of acute periapical abscess in relation to 21 and talons cusp in relation to 13, 12, 11, 21, 22 and 23 was considered. Following patient was subjected to radiographic examination, i.e. intraoral periapical radiographs and

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Orthopantomograph revealed an additional cusp as a radiopacity extending from the cervical one-third toward the incisal edges in relation to 13, 12, 11, 21, 22, and 23 suggestive of multiple talon cusps in relation to 13, 12, 11, 21, 22, and 23. There was a loss of lamina dura with a diffuse radiolucency in the periapical region of 21 (Figure 5), suggestive of radiographic diagnosis as chronic periapical abscess in relation to 21.

Based on the history, clinical features and investigations a final diagnosis was made as acute exacerbation of chronic periapical abscess in relation to 21 and root canal treatment was advised. For talon cusps, since the teeth were asymptomatic, and the anomaly did not interfere with the occlusion, no treatment was considered necessary.

DISCUSSION

Dens evaginatus is a developmental anomaly characterized by the presence of an additional cusp. It is seen more frequently in mandibular premolars.¹

Talon cusp occurs more frequently in the permanent than in the primary dentition with a predilection for the maxilla over the mandible. The most commonly involved teeth include maxillary lateral incisors, followed by the central incisors...
Talon cusp shows a predilection for the maxilla over the mandible occurs more frequently in the permanent dentition as seen in our case. There are insufficient reports on the prevalence of talon cusps. Buenviaje and Rapp reported that the prevalence of talon cusps was 0.17%, without indicating whether the anomaly occurred in the primary or the permanent dentitions.17

The reported cases of talon cusps are commonly unilateral; approximately 20% are bilateral.18

Hattab et al.9 classified the anomaly based on the degree of their formation and extension into three types: Type 1 (talon): Additional cusp that projects from the palatal surface of an anterior tooth and extends at least half the distance from the cementoenamel junction to the incisal edge; Type 2 (semitalon): An additional cusp of a millimeter or more but extending less than half the distance from the cementoenamel junction to the incisal edge; and Type 3 (trace talon): Enlarged and prominent cingula and their variations. Our case was classified under Type 2.

Talon cusp can cause a host of clinical problems such as occlusal interference, irritation of the tongue and neighboring oral tissues, pulp necrosis, caries, attrition, periodontal problems, displacement of the affected tooth, breastfeeding difficulties, esthetic problems, accidental cusp fracture, radio-diagnostic issues and even temporomandibular disorders.19,20

The treatment is planned based on the size, extent and configuration of the talon cusp.

Treatment ought to be planned individually after thorough clinical and radiologic examination. The presence or absence of pulp tissue in the talon cusp plays a pivotal role in the treatment. Treatment plan includes no treatment,13 a periodic grinding procedure with a desensitizing agent such as fluoride varnish or a single-visit reduction of the cusp with or without endodontic therapy. In the present case, since the teeth were asymptomatic and the anomaly didn’t interfere with the occlusion, no treatment was considered necessary.9,15

CONCLUSION

It is of utmost importance for an oral physician to thoroughly examine and diagnose talon cusp and correlate its association with many syndromes. Presence of talon cusp should be diagnosed as early as possible and managed with a multidisciplinary approach based upon the type of talon with or without pulpal extension in order to prevent untoward clinical conditions.

REFERENCES


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