



Unusual Case Report of Mandibular Talons Cusp

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Abstract

Talon cusp is a dental anomaly also known as an Eagle's talon. It is an additional cusp on an anterior tooth which occurs due to evagination on the surface of a crown before calcification. The exact etiology is unknown. The incidence of talon cusp is very less which is even lesser in mandibular anteriors. Maxillary incisors are most commonly involved teeth, usually unilateral but in some cases bilateral. Double teeth appearance is a typical radiological diagnostic feature. The anomaly rarely found in mandibular dentition. This article we are reporting an unusual case of talon cusp of permanent mandibular central incisors.

Keywords: Talons Cusp; Anomaly; Evagination

Introduction

Talon cusp, also known as Eagle's talon, is a manifestation of dens evaginatus in the anterior teeth [1]. The incidence has been found to range from less than 1% to 6% of the population, in which 55% occur on the permanent maxillary central incisor, and 33% occur on the permanent maxillary lateral incisor [2].

- **Type I (Talon):** An additional cusp that projects toward the palatal surface of an anterior tooth and extends at least half the length of the cementoenamel junction to the incisor edge.
- **Type II (Semi talon):** An additional cusp of 1 mm or more in length that extends less than half the length of the cementoenamel junction to the incisor edge.
- **Type III (Trace talon):** Amplified manifestation, protruding gingulum and its variations.

In a study carried out for a period of three years, the site distribution of talon cusp in a Turkish population was as follows: maxillary right central incisors 30%, maxillary left central incisors 12%, maxillary right lateral incisors 27%, maxillary left lateral incisors 24%, mandibular right central incisor 3%, mandibular left canine 3% [4].

The prevalence of this anomaly in the population varies between 1% and 8% [5,6]. It is most frequently found in permanent teeth 77%, with the maxillary incisors being the most affected 94%. Among the incisors, the laterals (55%) and most affected [7]. This anomaly occurs in both sexes, but is most prevalent in males (65%) and may be unilateral or bilateral [8]. In 1999 Hegde and Kumar [9] observed a rare case of talons cusp in primary mandibular incisor and 8 cases of talons cusp in permanent incisors. Of these, only 1 involved a permanent mandibular incisor.

The frequencies of tooth affected in descending order are central incisors, lateral incisors and canines. Central incisor is frequently affected tooth whereas lateral incisors and canines are comparatively less affected teeth. The permanent dentition has been involved three times more often than the primary dentition which has been published in various studies. The anomaly has been reported to be unusual in the mandible [10].

Case Report

A 8-year-old girl reported with the complaint of malaligned lower anterior teeth with non-contributory medical history with no abnormal findings in general examination. Intra-oral examina-

tion revealed talon cusp on the lingual surface of left mandibular central incisor (Figure 1). Radiographic examination confirmed double-teeth appearance of permanent left central incisors (Figure 2). Because the extra tubercle caused large amount of plaque build-up and food lodgement, therefore after through prophylaxis of the affected teeth, ameloplasty was conducted on the groove using a carbide no.1/2 bur in a high speed hand piece followed by sealant placement (Figure 3).



Figure 1: Pre-treatment photograph: Talons cusp seen in mandibular left central incisor 31.



Figure 2: Radiograph showing double-teeth appearance in permanent left central incisors.



Figure 3: Post treatment: after placement of sealant.

Discussion

Talon cusp affects both male and females, incidence is higher in males. Most of the cases are unilateral, but one fifth of the cases are bilateral. Studies have revealed that maxillary incisors are most commonly affected and mandibular incisors are least commonly affected [3]. This abnormality is probably induced by trauma or other localized insults affecting the tooth germ [11]. Genetic factors have also been suggested by some authors [1,12,13]. Population-based phylogenic and genetic studies involving dental variations such as cusp of carabelli and talon cusp has been carried out recently in Hungary [14]. It appears to be more prevalent in patients with Rubinstein-Taybi syndrome, Mohr syndrome (oral-facial-digital syndrome, type-II), Sturge-Weber syndrome (encephalotrigeminal angiomas) or incontinentia pigmenti achromians [8,15]. Our case was not associated with any known abnormal systemic developmental syndromes.

Clinical problems noted with talon cusp cases include attrition, breast-feeding problems, compromised aesthetics, occlusal interference, accidental cusp fracture, interference with tongue space, temporomandibular joint pain, displacement of the affected tooth, irritation of tongue during speech and mastication, periodontal problems because of excessive occlusal force, misinterpretation of radiographs of teeth with talon cusp before eruption and caries susceptibility because of developmental grooves on the talon [4].

Early diagnosis and definitive treatment is important for talon cusp. Caries in the deep developmental grooves of the cusp should be excavated and it should be restored with suitable restorative material. Non-carious grooves should be debrided with slurry of pumice, acid etched and sealed with fissure sealant. If talon cusp causes pre-mature contact and occlusal interference, the cuspal grinding should be gradually carried out on consecutive visits over 6 - 8 week intervals to allow reparative dentin formation for pulpal protection. After each grinding procedure, the tooth surface should be covered with an agent control dentinal hypersensitivity. Conservative techniques such as complete reduction of the cusp followed by calcium hydroxide pulpotomy for an immature tooth or root-canal therapy have also been carried out [16].

Conclusion

Early diagnosis, restoration and grinding down of a talons cusp are important in preventing occlusal interferences, caries in developing grooves, periodontal problems owing to excessive occlusal force and discomfort in the tongue when talking and masticating, as well as improving esthetics. Our case report highlights this unusual anomaly occurring in an unusual site followed by a treatment modality.

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