



The Journal of Turkish Dental Research
Türk Diş Hekimliği Araştırma Dergisi

e-ISSN: 2822-4310, Cilt 2, Sayı 2, Mayıs - Ağustos 2023
Volume 2, Number 2, May - August 2023

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Dens İnvajinatus ile Birlikte Görülen Bifasiyal Talon Tüberkülü: Bir Olgu Sunumu

Dens İnvajinatus ve Talon Tüberkülü

A. Zeynep Zengin¹, Peruze Çelenk²

¹Doç. Dr. Ondokuz Mayıs Üniversitesi Diş Hekimliği Fakültesi,
Ağız Diş ve Çene Radyolojisi Anabilim Dalı,
Samsun, Türkiye, ORCID: 0000-0002-4388-7751
dtzeynep78@yahoo.com.tr

²Prof. Dr. Ondokuz Mayıs Üniversitesi Diş Hekimliği Fakültesi,
Ağız Diş ve Çene Radyolojisi Anabilim Dalı,
pcelenk@hotmail.com
Samsun, Türkiye ORCID: 0000-0002-8111-117X

Makale Bilgisi / Article Information

Makale Türü / Article Types: Olgu Sunumu / Case Report

Geliş Tarihi / Received: 28-02-2023

Kabul Tarihi / Accepted: 27-03-2023

Yıl / Year: 2023 | **Cilt – Volume:** 2 | **Sayı – Issue:** 2 | **Sayfa / Pages:** 207-211

Sorumlu Yazar / Corresponding Author: A. Zeynep ZENGİN

<https://doi.org/10.58711/turkishjdentres.vi.1256925>

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ÖZET

Talon tüberkülü, dişin nadir gelişimsel anomalilerindedir. Kartal pençesine benzediği için bu isim verilmiştir. Talon tüberkülü genellikle kesici dişlerin palatinal yüzlerinde yer alır. Bilateral ve bifasiyal olarak görülmeleri son derece nadirdir.

Talon tüberküllerinin etiyolojisi bilinmemekle beraber multifaktoriyel olarak genetik ve çevresel etkenlerin birleşiminden etkilendiği, gelişimsel olarak mine organının dışa katlanması veya dental laminanın fazla üretkenliği sonucu oluştuğu düşünülmektedir.

Dens invajinatus, dişin gelişimi esnasında mine ve dentin organının dental papilla içerisine katlanmasından kaynaklanan bir dental anomalidir. Bu olgu sunumunda bilateral talon tüberkülü ve aynı dişte dens invajinatus ile birlikte görülen bifasiyal talon tüberkülü vakası rapor edilmiştir.

Anahtar Kelimeler: Dental anomali, talon tüberkülü, dens invajinatus

ABSTRACT

Talon cusp is an uncommon odontogenic anomaly. Due to its resemblance to an eagle's talon, it was named as "talon cusp". Talon cusps occur most commonly on palatal surfaces of permanent incisors. Bilateral and bifacial talon cusp is an extremely rare occurrence.

The etiology of talon cusps remains unknown, though it is thought to be a combination of genetic and environmental factors, developmentally result of an outfolding of the enamel organ or hyperproductivity of the dental lamina.

Dens invaginatus is a developmental anomaly which is formed byfolding the enamel-dental organ through the pulp chamber during the teeth development. In this case, bilateral talon tubercle and bifacial talon tubercle with dens invaginatus in the same tooth was reported.

Keywords: Dental anomaly, talon cusp, dens invaginatus

Introduction

Talon cusp is an anomalous hyperplasia of the cingulum of an incisor.¹ This unusual anomaly has been given several descriptions such as prominent accessory cusp like structure, cusp like hyperplasia, accessory cusp and supernumerary cusp. Also there have been several definitions for talon cusp. One of the most extensive definition is “Talon cusp is a supernumerary accessory talon shaped cusp projecting from the lingual or facial surface of the crown of a tooth and extending for at least half the distance from the cemento-enamel junction to the incisor edge”²

Dens invaginatus also a developmentally anomaly resulting from invagination of the enamel organ into the dental papilla, beginning at the crown and sometimes extending in to the root. It commonly occurs in maxillary lateral incisors, central incisors, premolars, canines, molars.¹ Clinically, dens invaginatus appears in the tooth crown at the side of an anatomical lingual pit susceptible to caries. Radiographically it shows a radiopaque invagination equal in density to enamel, extending from the cingulum in to the root canal. The size and shape of the defect may vary. It may be seen as loop like or a severe form resembling a “tooth within a tooth”³

Bilateral^{4,5} and bifacial⁵⁻⁷ talon cusp is an extremely rare occurrence. The following case describes an unusual case of bifacial talon cusp with dens invaginatus on the same tooth.

Case Report

A 12-year-old male patient presented complaining of poor dental aesthetics to our clinic. The patient appeared healthy and medical history did not reveal any severe illness or general developmental disorder. Also, family history was noncontributory.

Intraoral examination revealed a normally developing mixed dentition with caries on deciduous teeth. Clinical inspection revealed talon cusps on maxillary permanent lateral incisors: left lateral incisor had a talon cusp only on palatal surface and right lateral incisor had two talon cusps on labial and lingual surfaces. A clinical diagnosis of bilateral and bifacial talon cusp was made. (Figure 1,2)



Figure 1. Facial aspect of maxillary incisors.



Figure 2. Occlusal image of maxillary lateral incisors.

There were developmental grooves and a pit, where the accessory cusp joins the lingual surface. There was no tenderness or pain on palpation and percussion. No irritation of the soft tissues was observed. Occlusal interference was present, resulting in attrition of the tip of cusp on mandibular right lateral incisor. (Figure 3)



Figure 3. The occlusal interference of lateral incisors. A small defect can be seen on mandibular right lateral incisors edge.

Periapical and occlusal radiographs showed that left maxillary lateral incisor had a V-shaped radiopaque structure arising from the cingulum and right maxillary lateral incisor had an interesting and unusual radiographic image of two talon cusps with dens invaginatus. (Figure 4,5,6)

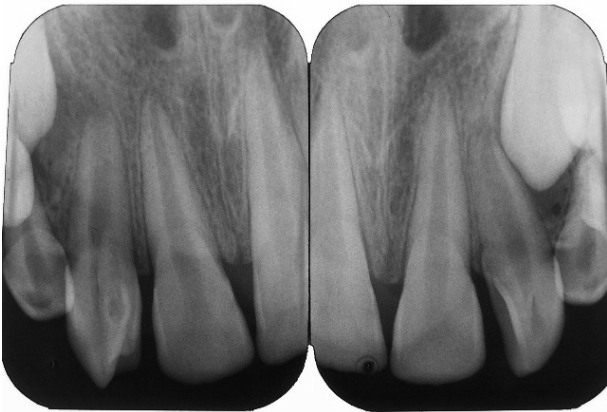


Figure 4. Periapical radiograph showing maxillary left lateral incisor with talon cusp and maxillary right lateral incisor with bifacial talon cusp and dens invaginatus

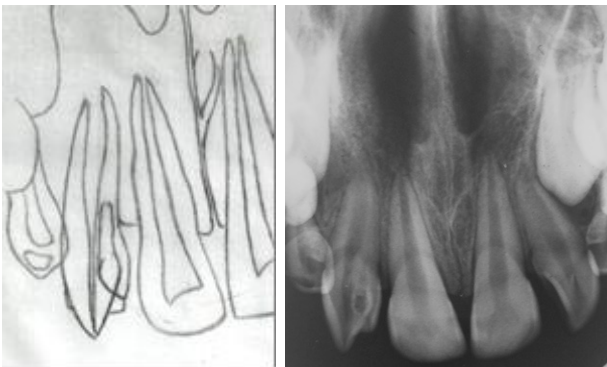


Figure 5. Dens invaginatus with bifacial talon cusps. **Figure 6.** Occlusal view of maxillary lateral incisors

Both lateral incisors had incomplete root development with an open apex. The intraoral radiographs in this report indicated possible presence of pulp in the labial talon cusp of lateral incisor. Panoramic radiograph showed bilateral talon cusps in mixed dentition and caries on deciduous molars. (Figure 7)



Figure 7. Panoramic radiograph shows mixed dentition of our patient.

The treatment plan of talon cusp included to reduce the facial talon cusp (to have a good dental aesthetics) and palatal talon cusps (to avoid occlusal interferences) with periodic cusp reduction followed by topical fluoride

application and composite resin facing. However, the patient failed to turn up for treatment.

Discussion

Talon cusp is more frequent in men and permanent incisors. The prevalence has been found to be 0.34% in Turkish population.⁸ The most affected teeth are maxillary lateral incisors. In this case, talon cusps and dens invaginatus were present in maxillary lateral incisors that is supposed to be compressed during morpho-differentiation stage.

All the talon cusps presented in this case were type 3 talon cusp. Hattab et al.⁹ proposed a classification system for these anomalous cusps on the basis of the degree of cusp formation and extension. The type 3 talon cusp (trace talon) is an enlarged and prominent cingulum. Also, the right lateral incisor had type 2 dens invaginatus. Dens invaginatus was classified as in three types with respect to the morphology and depth of invagination. In type 2 dens invaginatus, an enamel-lined form which invades the root as a blind-sac and may communicate with the dental pulp. Mehta et al.⁴ proposed a comprehensive and integrated classification of talon cusp. Mallineni et al.¹⁰, based on the surface involved, classified talon cusp into facial (F), lingual/palatal (L/P) and facial and lingual/palatal (FL/P).

Talon cusp has been reported as an individual dental anomaly. Moreover, it can occur in association with other dental anomalies¹ like supernumerary teeth, odontomas, impacted teeth, peg shaped lateral incisors, dens invaginatus and posterior dens evaginatus. In this case, dens invaginatus was accompanying to bifacial talon cusps on the right maxillary lateral incisor.

The presence of a talon cusp can be associated with problems¹ such as compromised aesthetics, occlusal interference, tooth displacement, caries, periodontal problems or irritation of the soft tissues during speech or mastication. Because of occlusal interference, it can cause infra-occlusion of the opposing tooth, damage the periodontium and also temporomandibular joint pain. In the case reported, talon cusps had caused compromised aesthetics and traumatic occlusion.

Talon cusp is composed of enamel, dentine and a varying amount of pulp tissue.¹ The extent of pulp extension into the cusp is, however, difficult to

determine because of its superimposition over the main pulp chamber. The radiographs in this report indicated possible presence of pulp in the talon cusps of right lateral incisor.

The management and treatment outcome of talon cusp depends on the size, presenting complications and patient cooperation. If the interference is severe, some authors advocated total removal of the talon cusp, exposing the pulpal extension and apply pulp therapy.⁶ In the case of an immature apex, the preferred method of treatment would be vital pulp therapy to allow for continued apical development.¹¹ In this case, the planned treatment method of lateral incisors with immature apex was gradual reduction technique. It may encourage the development of reparative dentin and pulp obliteration.

There are some reported cases about bilateral talon cusp,^{4,5} and bifacial talon cusp^{5,6,7} in the literature. Ghosh et al.¹² and Colak et al.¹³ reported talon cusps occurring concurrently with dens invaginatus. Siraci et al.¹⁴ reported buccal and palatal talon cusps with pulp extensions on a supernumerary primary tooth.

Reports of bilateral and bifacial talon cusps are rare in the literature. In the case reported, the interesting aspect was that each tooth had talon cusps on palatal surfaces (bilateral talon cusps) and one had bifacial talon cusp with dens invaginatus. According to our finding, the reported case describes an uncommon case of bifacial talon cusp with dens invaginatus on the same tooth, upper permanent lateral incisor.

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