

Case Report

Unilateral Talon Cusp on Primary Lateral incisor in a three-year-old Libyan Girl: A Case Report and Literature Review.

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ABSTRACT

Background: Talon cusp is an uncommon dental anomaly; it is a cusp-like projection appears usually on the palatal surfaces of maxillary anterior teeth in both deciduous and permanent teeth. **Case report:** A three-year-old Libyan girl seeks the dentist for carious anterior teeth. **On examination:** asymptomatic talon cusp on the palatal side of tooth 52 was found. **Discussion:** Talon cusp is more common in permanent dentition than primary dentition, and is relatively rare in primary maxillary lateral Incisor comparing with the primary maxillary central incisors. **Conclusion:** Talon cusp is asymptomatic, but it could affect esthetic or interfere with occlusion, and might be a sign for a developmental anomaly in its permanent successors, so early diagnosis and management are important.

INTRODUCTION

Talon cusp is an uncommon dental anomaly ⁽¹⁾ that can be seen in both primary and permanent dentition. It is found in maxillary arch more often than mandibular arch ⁽²⁾, it is most commonly found on the palatal surfaces of permanent maxillary lateral incisors comparing with the central incisor, and rarely seen in primary maxillary lateral incisor in comparison with the central incisor ⁽³⁾ while some genetic and environmental factors could be the cause for the talon cusp. The exact etiology is unknown ⁽⁴⁾. It is asymptomatic if it is small, but it could cause tongue irritation during physiologic function if it is big ⁽³⁾. Presence of Talon cusp on the palatal surface of primary maxillary lateral incisor could be a prediction for dental anomaly in its permanent successor ⁽³⁾.

CASE REPORT

A three-year-old Libyan girl was brought to the dental clinic, faculty of dentistry- University of Benghazi, to receive a dental treatment for carious maxillary anterior tooth. On Intraoral examination, dental caries was present in tooth 51. A fully erupted, asymptomatic, accessory cusp like projection was seen in relation to the palatal surface of 52 which extended from the cervical region to almost two-thirds of the incisal edge suggestive of a talon cusp was found.

The cusp was attached to tooth surface, forming a T-shape crown outline. Primary left lateral incisor erupted normally and the other primary teeth were erupted. There was no relevant medical or dental history. The hair and skin of the patient appeared normal and no systemic abnormality or congenital disease was noted in the medical history of the patient and her family. The occurrence of malformed tooth, and no supernumerary tooth was confirmed. No treatment such as grinding or reduction of the talon cusp was done. Restoration of the carious teeth was done. The patient was asked to report every three months for review.



Figure 1: Showing maxillary deciduous right lateral incisor with Palatal Talon Cusp.

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Figure 2: Closer Picture for the same tooth

DISCUSSION

Talon cusp is an uncommon ^(1, 5) kind of dental anomaly ⁽²⁾ that can be seen in both primary and permanent dentitions, manifested as a cusp-like projection ⁽⁶⁾. It has been reported in the literature almost 120 years ago ⁽⁴⁾. It affects the anterior teeth in both deciduous and permanent dentition ^(2, 4), but it is less common in primary dentition in comparison with permanent dentition. Al-Omari and colleagues ⁽⁷⁾ revealed that permanent teeth are affected with talon cusp three times more frequently than primary teeth and males are more commonly affected than females ⁽³⁾. It can be seen unilaterally or bilaterally and has been reported most commonly in maxillary teeth ⁽²⁾. Talon cusps occurrence in mandibular arch is very rare ⁽⁴⁾ in permanent dentition maxillary lateral incisor is commonly affected ^(3, 8) while the prevalence of talon cusp in the primary dentition in maxillary central incisors is more than maxillary lateral incisors ⁽³⁾. In mandibular arch Central incisor is the most common tooth type that is affected by talon cusp in permanent dentition, while in primary dentition lateral incisor is more commonly affected; It could be present on the palatal or the labial surface of an anterior tooth ⁽⁴⁾. Talon cusp is formed during the morphodifferentiation stage of tooth development ⁽⁹⁾. It is a developmental anomaly of uncertain etiology ^(1, 4, 10); its cause might be genetic or environmental ⁽⁴⁾ or due to outward folding of the inner enamel epithelial cells with a transient focal hyperplasia of the dental papilla ⁽¹¹⁾ during early stages of odontogenesis ⁽⁶⁾.

The talon cusp can occur alone or combined with another dental anomalies such as mesiodens, odontoma. It has also been associated with some

systemic conditions like Mohr syndrome, Sturge-Weber syndrome ⁽¹²⁾. Talon cusp is a projection that ranges in appearance from an enlarged cingulum to a well formed cusp ⁽¹³⁾, extend at least half the distance from cemento-enamel junction to the incisal edge ^(1, 13-16). Different names have been given depending on different shapes of this anomaly like accessory evaginatus, evaginated odontome, cusped cingulum, dens, horn, hyperplastic cingulum, supernumerary cusp and supernumerary lingual tubercle ^(4, 13, 17). The name of Talon cusp has been provided by Mellor and Ripa because of its resemblance in shape to an eagle's talon ^(18, 19). It is formed of enamel, dentin with or without pulp structure ^(4, 13). Earlier, there was a confusion between talon cusp and dens evaginatus, as both are projections covered by enamel that contains pulp tissue, the term "dens evaginatus of the anterior teeth" has also been used for "talon cusp" ^(4, 15, 20).

Radiographically it is similar to normal tooth image, presenting with radioopaque enamel and dentin with or without pulpal tissue extension ⁽¹³⁾ and may be discovered during clinical examination of the oral cavity ^(1, 2).

On clinical examination, Talon cusp is manifested in three forms: talon, semi-talon and trace talon ⁽²⁾. The teeth with small talon cusp are often asymptomatic so they don't need treatment ^(1, 2, 19), however, some clinical problems could be associated with large talon cusps ⁽²⁾ as The affected teeth could be more susceptible to caries, and malocclusion ⁽¹⁾ or it would cause irritation to the tongue during speech and mastication, so they need to be treated ⁽²¹⁾.

In general, when primary central incisors have a talon cusp, the permanent successors will not be affected. However, presences of talon cusps on primary maxillary lateral incisors have a high proportion (78%) ⁽¹⁴⁾ of unerupted permanent successors to display a dental anomalies ^(3, 14). There has been one reported case of bilateral talon cusps on the maxillary primary central incisors of a 17-month-old Jordanian-Arab boy ⁽¹⁹⁾. To date, no prevalence study on primary talon cusp in Libyan population has been performed, so it is really important to conduct studies that could provide data on Libyan population prevalence of dental anomalies as the incidence and degree of the anomalies expression can help in the understanding of differences within and between populations and will provide important information for phylogenetic and genetic studies.



CONCLUSION

Prevalence of the talon cusp was most commonly on the permanent dentition and very rare in the primary dentition. It is important to know and investigate anomalies in the primary dentition because of their effect on the underlying permanent dentition. Early identification of these anomalies and intervention with management at the appropriate time are very essential as they would minimize complicated treatments in future.

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