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BILATERAL OCCURRENCE OF TALON CUSPS IN PRIMARY DENTITION: A RARE ENTITY

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ABSTRACT: Talon cusps are very common in permanent dentition, while rarely reported in primary dentition. Unilateral is more common than bilateral occurrence of talon cusps and more common in males than females. The occurrence of bilateral occurrence of talon cusps in primary dentition has not been reported very frequently. The purpose of the present case report was to describe a rare case of bilateral talons in 4-year old child.

KEYWORDS: Talon cusp, primary dentition, children

INTRODUCTION

Talon cusp is a cusp-like or a tooth like projection from the palatal or labial surface of an anterior tooth that extended at least half the distance from the cement-enamel junction to the incisal edge contains enamel, dentin and/or pulp in maxillary or mandibular arch.[1] Talon cusps are very common in permanent dentition, while rarely reported in primary dentition.[2] Unilateral is more common than bilateral occurrence of talon cusps.[3] More common in males than females.[1-3] Talon cusp may be seen in association with Mohr syndrome, Rubinstein–Taybi syndrome, Sturge–Weber syndrome, and Ellis–van Creveld syndrome.[4] The reported prevalence of talon cusps in permanent teeth was 7% whilst 0.04% in primary teeth.[5] The occurrence of bilateral occurrence of talon cusps in primary dentition has not been reported very frequently. Therefore, the purpose of the present case report was to report a case of bilateral talons in 4-year old child.

Case report:

A 4-year old boy visited to our specialty clinic from school health camp for regular check-up. His medical and family history are not contributory and this was his first dental visit. He was apparently healthy child born to non-consanguineous parents at full term. Intraoral examination revealed that he is primary dentition with adequate oral hygiene. No actives carious lesions were noted. Anterior cross bite was noted in relation to teeth 52 and 82 due to an 'extra cusp' was seen projecting from the lingual surface in relation to maxillary primary central incisors **(Fig.1).** On close examination of the involved teeth 51, and 61 were observed with an accessory cusp was present, projecting from cingulum and involving more than half of the lingual surface **(Fig.2).** Intra-oral periapical radiograph confirmed the presence of talon cusp in relation to teeth 51 and 61 **(Fig.3).** Treatment options like selective grinding and application sealants were explained to the patient and parents, however parents declined for treatment. Hence, topical fluoride sealant was applied and patient was kept on follow-up at six monthly intervals.

Discussion

More than 120 years ago, William Mitchel[6] described accessory cusp on a permanent upper central incisor and described the structure as, "process of horn like shape curving from the base downwards to the cutting edge". In 1972, Mellor and Ripa[7] named it talon cusp due to its close similarity with an eagle's talon. Since then , many names have been used for this dysmorphic disturbance of teeth, namely, dens evaginatus, supernumerary cusp, horn, hyperplastic cingulum, evaginated odontome, cusped cingulum, accessory cusp and supernumerary lingual tubercle.[2,4,8,9] The term talon cusp should be reserved only for those anomalous cusp that prominently projected from the lingual surface of a succedaneous tooth, that are morphologically well delineated and extend at least half the distance from cement-enamel junction to the incisal edge.[5-9] Smaller cusp like projections in the cingulum should be referred to as enlarged or prominent cingulum.[10] The aetiology still remains unclear. Various hypotheses regarding its aetiology have been put forward. Some of these are; it is supposed to be a consequence of outward folding of inner enamel epithelial cells or may be due to hyperactivity of dental lamina. Another hypothesis suggests genetics to be a causative factor of talon cusp based on its occurrence in a family.[2,4] Trauma and other localized forces on tooth germ have also been held responsible for talon cusp. Proposal of hyperactivity of cells of tooth germ may lead to development of talon cusp, which is genetically determined but the degree is influenced by environmental factors.[4] Clinically, it presents as an accessory cusp that projects from the cingulum area of anterior teeth and involves more than the half of the lingual or palatal surface. In present case no family history was evident and the occurrence was bilateral on both primary central incisors.

Fig.1. Intra-oral frontal views showing interference of talon cusps with the occlusion and talon cusps causing cross bite 52 to 82.

Fig.2. Maxillary arch showing bilateral talons on teeth 51, and 61.

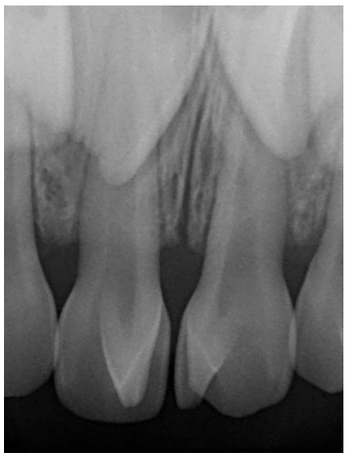

Fig.3. Intraoral periapical radiograph showing the presence of bilateral talons on primary central incisors.

Hattab et al [2] classified talon's cusp based on the degree of formation and extension into three categories. These are Type 1 (True talon): A well-delineated additional cusp that predominantly projects from the palatal or lingual surface of anterior teeth and extends half way from cement-enamel junction to the incisal edge (as seen in our patient).• Type 2 (Semi talon): An additional cusp of a millimetre or more but extending less than half the distance from cement-enamel junction to incisal edge. It may blend with palatal surface or strand away from the crown. Type 3 (Trace Talon): Enlarged cingulum and may present as conical bifid or tubercle shaped. Histological, it may or may not contain pulpal tissue. Radiographically, it appears to be super-imposed over the tooth on which it develops. Mallineni et al[1] classified into tree types based on appearance are buccal or labial (Type 1), lingual or palatal (Type 2) and buccal and lingual (Type 3). The present case was type 1 (talon) based on Hattab's classification and Mallineni's palatal (type 2) type. The clinical problems associated with talon cusp are predisposition to caries due to the presence of deep grooves and resultant stagnation of food debris, periapical lesions, occlusal interference, and irritation to tongue during mastication or speech.[4,6,8] However, in the present cross bite was evident and patient declined for the treatment. Treatment is required only for symptomatic cases. In case of deep developmental grooves, these should be thoroughly cleaned to get rid of debris and sealed using fissure sealant. In case of carious grooves, restoration of the involved tooth becomes mandatory.[10,11,12] If due to deep carious lesion or occlusal interferences, a portion of talon cusp has to be removed then grinding should be done gradually on consecutive visits at six weeks intervals so as to ensure deposition of reparative dentin.[10] Pulp therapy is done in cases of pulpal involvement.[4,10,11] Occasionally talons in primary incisors

were reported in association with double tooth,[12,13] nevertheless, in the present case both talons were isolated in occurrence. Bilateral occurrence of talons primary talons not been reported in literature frequently. Only four reports[2,4,14,15] were exist in the published literature This is only fifth case to report on bilateral talon cusps. More patient and parent were not willing for any treatment hence, patient kept under review with regular appointments for monitoring of talons cusps.

CONCLUSION

Bilateral occurrence of talon cusp on the primary incisors had been reported not frequently in the literature. As for authors knowledge this is the only fifth case of its kind published in literature. Clinicians should pay more attention in diagnosing this unique entity that can help in early treatment of the condition if required.

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