

Talon Cusp: A Rare Anomaly On Lower Supernumerary Tooth.

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Abstract: Talons cusp is an anomaly characterized by an accessory cusp similar to a projection, extending from the cingulum or Cementoenamel junction to the incisal edge. This occurs as a result of disturbance of morphogenesis of tooth development. Talon cusp manifests in primary and permanent dentition with more predilection for the primary premaxilla when compared to permanent lower arch and that to in supernumerary teeth. Occurrence of talon cusp on supernumerary teeth is rare and uncommon. Hence in this case report we present a rarest anomaly ever been seen or evidenced in the literature.

Keywords: Talon cusp, Supernumerary teeth, Mandibular central incisor,

I. Introduction

Talon cusp also known as eagle's talon is an accessory cusp like structure or an extra cusp on an anterior tooth, which arises as a result of evagination on the surface of crown before calcification has occurred. It is usually found in association with many syndromes but also at times seen in non syndromic individuals. It was first described by Mitchell in 1892 and later named talons cusp by Mellor and Ripa due to its resemblance to an eagle's talon¹.

A supernumerary tooth is defined as an additional entity to the normal series and is seen in all the quadrants of jaws². The etiology of supernumerary tooth is not completely understood. 90 to 98% of all supernumeraries occur in the maxilla with strong predilection for the premaxillary region ranged between 65 and 90%³. The occurrence of the talon cusp in a supernumerary tooth is an extremely rare phenomenon reported with only few cases reported till now. In all of them, talon cusp occurred in either conical or supplemental type of mesiodens in maxillary dentition⁴. This paper presents a case of development of the talon cusp on lower mandibular central supernumerary teeth which is a rare anomaly. To the best of our knowledge this is the first case of talon cusp seen on a mandibular central supernumerary tooth.

Case Report

A female patient aged 19 years reported to the department complaining of forwardly placed upper front teeth with crowding in the mandibular anterior teeth. She had Class I molar relation and crowding of mandibular anterior teeth there were no apparent manifestations of any systemic, genetic and syndromic disorders. Patient family history was non-contributory.

On intraoral examination when the anomalous tooth was counted as a single tooth, there was increase in number of teeth by one. Patient had a supernumerary tooth with reduced mesiodistal width in comparison to the other lower incisors. It had a unusual bulge on the lingual surface with different crown morphology. The tooth was clinically asymptomatic with no history of recurrent ulcerations on the tongue. Occlusal interference due to talon cusp was not seen. A inverted V-shaped radio-opaque structure was seen overlapping the coronal aspect of the tooth on a panoramic radiograph. This finding was also confirmed on a periapical radiograph.

Both clinical and radiographic examination (fig1, 2) confirmed the existence of talons cusp on the supernumerary tooth. Since the patient had approached the department for correction of proclination as her chief concern orthodontic treatment was planned with extraction of premolars along with the supernumerary teeth.



Fig1: Intra oral photograph of lower arch with talons cusp with supernumerary teeth



Fig 2: Intraoral periapical radiograph of lower arch with talons cusp on supernumerary teeth

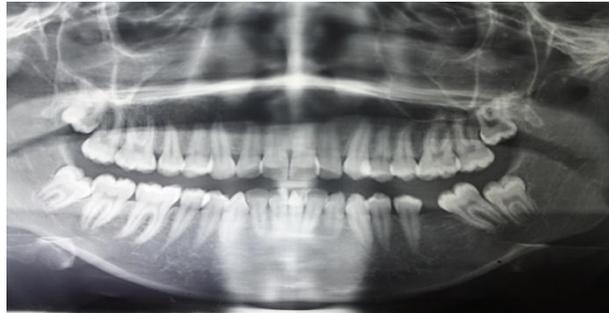


Fig 3: Panoramic radiograph with talons cusp on supernumerary teeth

Case Report.

A female patient aged 19 years reported to the department complaining of crowding in the maxillary and mandibular teeth.. She had Class I molar relation with a constricted maxillary arch. There were no apparent manifestations of any systemic, genetic and syndromic disorders.

In the upper arch patient presented with a talons cusp in the lingual aspect of left maxillary lateral incisor near the cingulum area. Patient gave no history of ulceration on the tongue or any occlusal interference due to the talons cusp. A V-shaped radio-opaque structure was seen overlapping the coronal aspect of the tooth on a panoramic radiograph.(Fig 4,5) As the patient had deep fissures on the palatal aspect of the tooth with talons cusp, pit and fissure sealants were applied to avoid the occurrence of caries and patient was given instruction to maintain proper oral hygiene.



Fig 3: Intra oral photograph.

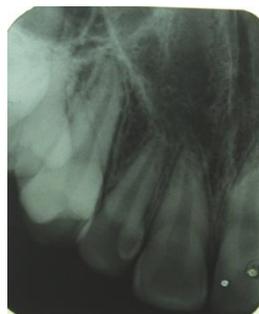


Fig 4: Intra oral periapical radiograph



Fig 5:Panaromic radiograph with 12

II. Discussion

Talon cusp was described as an anomalous hyperplasia of the cingulum of maxillary or mandibular permanent incisors resulting in the formation of a supernumerary cusp resembling an eagle's talon. Synonyms of talon cusp are dens evginatus, interstitial cusp, tuberculated premolar, odontoma of axial core type, evaginated odontoma, occlusal anomalous tubercle, and supernumerary cusp. It is usually seen in association with various syndroms like sturgeweber syndrome, Mohs syndrome, Ellis van creveled syndrome, Rubinstein taybi syndrome⁵.

Etiopathogenesis of talon cusp is multifactorial and thought to be polygenetic with some environmental influences thought to arise during the morpho-differentiation stage of tooth development, as a result of outfolding of the enamel organ or hyper-productivity of the dental lamina⁶. This abnormality is probably induced by trauma or other localized insults affecting the tooth germ.

Incidence of talons cusp is about 75% in permanent dentition compared to 25% in the primary dentition. It has a predilection for permanent dentition, than deciduous dentition and about 64% of predilection for males compared to females, males 64%, females 36%, 92% of cases manifest in maxillary anterior teeth in maxillary central incisor was more affected in primary dentition while in permanent dentition maxillary lateral incisor was affected about 67% followed by central incisor (24%), canine 9%, it has a prevalence rate of 0.06% in Mexican and 7.7% in north Indian, 0.17% in American and 2.5% in Hungarian children¹.

Hattib et al classified talons cusp in 1995 based on degree and extent of cusp formation into 3 groups

- 1) Talon has an additional cusp that project from palatal surface of anterior teeth and extends half a distance till Cementoenamel junction to the incisal edge.
- 2) Semi talon has an additional cusp >1mm that project from palatal surface of anterior teeth but extends less than half a distance till Cementoenamel junction to the incisal edge.
- 3) Trace talon manifests as enlarged and prominent cingula and there variation⁷.

Supernumerary teeth may be single or multiple, unilateral or bilateral, malformed or normal in size and shape, erupted or impacted, and occurs in the maxilla, the mandible, or both. Single supernumerary occur in 64-86%, double supernumeraries in 12-23%, and multiple supernumeraries in 1-5% of the cases. Supernumerary teeth may erupt normally, remain impacted, appear inverted, or assume an abnormal path of eruption. in permanent dentition, only 13% of tuberculate supernumeraries, 28% of conical type and 62% of supplemental type are erupted single or multiple, unilateral or bilateral and can be present any wherein the dental arch^{8,9,10,11}

Talon cusp of supernumerary teeth in the permanent dentition is extremely rare and literature has only countable case report. Prevalence of 7.7% has been found in north Indian population. Incidence has been found to range from less than 1% to 6% of the population, out of which majority occurs in maxillary central incisors 55% and 33% occurs with maxillary lateral incisors on lingual aspect, usually unilateral but in some instances bilateral¹

According to our search the cases with supernumerary associated with talons cusp was seen on maxillary arch especially on the mesiodens¹⁴. No evidence in literature related to talons cusp on lower anterior supernumerary tooth was found. This is an exceptional and rarest case of talons cusp appearing on a lower supernumerary teeth hence it has been reported here.

III. Conclusion

Two cases have been reported one in which the talons cusp presents on maxillary left lateral incisor a common anomaly and Talons cusp on a lower supernumerary teeth is a rare finding treatment option includes application of pit and fissure sealant for deep fissures to avoid caries. If occlusal interference is present reduction has to be opted with application of desensitizing agents.

References

- [1]. Labial and Lingual Talon Cusps of a Primary Lateral Incisor: A Case Report, J. Jeevarathan, A. Deepti, M.S. Muthu, N. Sivakumar, K. Soujanya, *Pediatrics Dent*, 27, 2005, 303-306.
- [2]. Shafer WG, Hine M K, Levy BM. A text book of oral pathology 4th edition Philadelphia: WB Saunders 1983, 40-41.

- [3]. Supernumerary Teeth -An Overview of Classification, Diagnosis and Management M.Thérèse Garvey, Hugh J. Barry Marielle: J Can Dent Assoc, 65, 1999, 612- 616.
- [4]. Mesiodens with Facial Talon Cusp- A Rarity Sulabha AN, Sameer C: journal of oral health community dentistry, 8(1), 2014, 62-64.
- [5]. An uncommon dental anomaly: Talons cusp Ushahegde, Paras mull J, Gaza Danish, Sayeed Nabeel: World journal of dentistry, 1(1), 2010, 47-50.
- [6]. Syndontia with talon cusp: Shalini Gupta, Ankita Tandon, Anil Chandra, and Om Prakash Gupta J Oral Maxillofac Pathol, 16(2), 2012, 266-271.
- [7]. LiuJF:Characteristics of premaxillary supernumerary teeth: a survey of 112 cases. ASDC J Dent Child, 62, 1995, 262-5.
- [8]. Hattib FN, Yassin OM, al-Nimri KS. Talon cusp in permanent dentition associated with other dental anomalies: a review of literature and reports of seven cases. J Dent Child, 57, 1996, 147-149.
- [9]. Salama FS, Hanes CM, Hanes PJ, Ready MA. Talon cusp: a review and two case reports on supernumerary primary and permanent teeth. J Dent Child, 57, 1990, 147-149.
- [10]. Nadkarni UM, Munshi A, Damle SG. Unusual presentation of talon cusp: two case reports. Int J Pediatr Dent 2002; 12:332-335.
- [11]. Topaloglu AK A, Eden E, Ertugrul F, Sutekin E. Supernumerary primary tooth with facial and palatal talon cusps: A case report. J Dent Child, 75, 2008, 09-312.
- [12]. Siraci E, Gungor HC, Taner B, Cehreli ZC. Buccal and palatal talon cusps with pulp extensions on a supernumerary primary tooth. Dentomaxillofac Radiol , 35, 2006, 469-472
- [13]. Dumancic J, Kaic Z, Tolj M, JankovicB: Talons cusp: A review literature and case report :acta stomatol croat ,40(2), 2006, 169-74.
- [14]. Supplemental Mesiodens with Facial Talons Cusp- An Unusual Case Report :R Neeraja1, G Kayalvizhi: J Oral Health Comm Dent, 6(2), 2012, 102-103.