



An Unusual Occurrence of Bilateral Maxillary Supernumerary Teeth with Dilaceration in Impacted Tooth and Talon Cusp in Erupted Tooth

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ABSTRACT

An apparently healthy 12-year-old boy was referred to the Department of Oral and Maxillofacial Pathology whose chief complaint was the presence of an additional tooth in the upper front teeth region. His medical, dental and family history was not relevant. Intraoral examination revealed an erupted, supernumerary tooth palatal to permanent maxillary right central incisor and radiograph revealed another supernumerary tooth with dilaceration. The erupted supernumerary tooth showed presence of a talon's cusp on the lingual aspect. Occlusal interference, displacement of adjacent teeth and impaired esthetics are the common complications of supernumerary tooth. This report presents a case of talon cusp in a supernumerary tooth and an additional impacted supernumerary with dilaceration which is an extremely rare condition with only few reported cases in the literature.

Keywords: Dilaceration, Supernumerary, Supplemental, Talon cusp.

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INTRODUCTION

Development of teeth is a complex process, making it more vulnerable for many developmental anomalies either in histodifferentiation or morphodifferentiation stages. Supernumerary teeth refers to an excessive number of teeth in the oral cavity, which may be caused by

remnants of dental lamina or palatal offshoots of active dental lamina which develop into an extra tooth bud.¹ Both talon cusp and dilacerations are an outcome of disturbance caused during morphodifferentiation.

A talon cusp was first described by Mitchell in 1892 as 'a process of a horn-like shape, curving from the base downward to the cutting edge' on the lingual surface of a maxillary incisor.² Talon cusp is a relatively rare, developmental anomaly affecting the shape of a tooth. It presents as a sharply-delineated supernumerary structure. Mader has suggested that the definition of this anomaly should be 'an additional morphologically well-delineated cusp that projects prominently from the lingual surface and extends at least half distance from the cemento-enamel junction to the incisal edge of the primary or permanent anterior teeth'.³ The prevalence of talon cusp ranges from 0.06 to 7.7%.⁴ The occurrence of the talon cusp in a supernumerary tooth is extremely rare with less than five reported cases in the literature. One of the major cause for a unerupted tooth is dilaceration. This is caused by trauma to permanent dentition, leading to a bend in the crown or root during morphodifferentiation. Here, we present a dual tooth anomaly caused during the morphodifferentiation.

CASE REPORT

A 12-year-old boy presented with a complaint of an additional tooth in the upper front teeth region. Intraoral examination revealed a supernumerary tooth in relation to the palatal aspect of permanent maxillary right central incisor which was slightly labially positioned.

Because of the presence of a supernumerary tooth, the adjacent soft tissues were normal and there was no evident midline diastema. The morphology of the tooth crown was conical when viewed from the labial aspect. The palatal surface of the supernumerary tooth showed an accessory cusp—a palatal talon cusp which was projecting from the cemento-enamel junction and extended toward the incisal edge appearing as T-shaped (Fig. 1). The talon cusp was separated from the palatal surface of the involved supernumerary tooth by noncarious, shallow developmental grooves. The medical, dental and family history of the patient did not reveal any positive findings.

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There was no history of any trauma to the orofacial region nor any association of syndrome was evident. Intraoral radiograph revealed the presence of two completely formed supernumerary teeth (Fig. 2) with the erupted tooth having a palatal talon cusp which appeared as a radiopaque structure superimposed over the crown. The impacted supernumerary tooth showed dilaceration of the root. The patient complained of occlusal interference and speech difficulties, for which both the supernumerary teeth were extracted (Fig. 3).

DISCUSSION

Talon cusp was first named by Mellor and Ripa in 1970.⁵ Talon cusp was described as an anomalous hyperplasia of cingulum of maxillary or mandibular permanent incisors resulting in the formation of a supernumerary cusp resembling an Eagle's talon.⁶ It is composed of normal enamel and dentin which may or may not contain pulpal tissue. The presence of a talon cusp appears to be more prevalent in Rubinstein-Taybi syndrome, Mohr syndrome and Sturge-Weber angiomatosis. It may also be seen in association with other somatic and odontogenic anomalies.^{3,6,7} In our case, there was simultaneous uncommon presence of three dental anomalies.

Bilateral maxillary supernumerary teeth, talon cusp on erupted supernumerary tooth and dilaceration on unerupted supernumerary tooth.

The etiopathogenesis of talon cusp is presumed to be multifactorial and may be a combination of genetic and environmental factors. Talon cusp formation may be a result of an outfolding of enamel organ or hyperproductivity of the dental lamina during morphodifferentiation stage of odontogenesis.⁸

Talon cusp has predilection for permanent dentition. Its occurrence is prevalent in males with greater predilection for maxillary anterior teeth. Talon cusps occur most commonly in the maxilla with permanent lateral incisors being the most commonly affected.⁹ This case report of a boy presenting with nonsyndromic talon cusp in a supernumerary tooth is a rare one in the literature. Sharma A et al have reported talon cusp on supernumerary teeth in 2% of the patients in their survey conducted among 300 Indian children.¹⁰

Hattab et al⁷ categorized talon cusps into talon, semi-talon and trace talon, based on the degree of their formation and extension from cemento-enamel junction toward the incisal edge. Later, this was modified by Stephen-Ying et al as major talon, minor talon and trace talon after many reports of labial involvement. Talon cusp, smaller in size are usually asymptomatic and requires no treatment.¹¹ In this case, the talon cusp fulfills both the classification as a major talon type.

Radiographically, the talon cusp is seen as a radiopaque structure, as seen in this case with tooth, thus making definitive diagnosis of talon cusp using radiographs difficult as it can resemble other developmental defects like odontoma.¹²

Talon cusps can pose clinical problems like-occlusal disturbances, displacement of the affected tooth, plaque



Fig. 1: Intraoral photograph showing the supernumerary tooth with Talon's cusp



Fig. 2: Intraoral periapical (IOPA) X-ray



Fig. 3: Extracted supernumerary teeth

retention, tongue irritation during speech and mastication, carious lesion in the developmental grooves that delineate the cusp, speech and mastication problems, pulpal necrosis, periapical pathosis, attrition of the opposing tooth and periodontal problems.¹³⁻¹⁶

The dilaceration of a tooth is as a result of trauma to the permanent dentition leading to an angulation of the remaining tooth formation at any level. This can equally pose clinical problems like deflection of adjacent teeth, eruption disturbances, unerupted teeth, etc.

Although these dental anomalies are encountered routinely in our dental practice, early diagnosis and proper treatment planning must be taken into consideration to prevent any potential dental complications.

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