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# Esthetic Rehabilitation with Mesiodens - A Case Report

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**Abstract:** ***Cosmetic dentistry has become an integral part of a restorative dental practice, because aesthetics has become a primary concern among patients. Aesthetics and smile of an individual is affected when a supernumerary tooth is present in abnormal position, leading to malposition of normal tooth. If smile is affected in young individual, it is a challenging task for a dentist to rehabilitate the function and aesthetics. The aim of this case report is to share knowledge about the management of mesiodens which affects the treatment planning.***

**Keywords:** Mesiodens, Supernumerary tooth, Hyperdontia, Aesthetics

## 1. Introduction

The prevelance of Hyperdontia in the general caucasion population ranges between 1-3%and appears evolutionarily to be increased [1, 2, 4, 15]. Approximately 90-98% of all supernumeraries occur in the maxilla with a particularly strong predilication (90%) for premaxilla [1, 2, 4, 5, 6, 15]. The most common type of supernumerary is the Mesiodens. It is located between the central incisors and has 0.15-1.90% prevalence. [1, 2, 7, 8].

Generally, Hyperdontia is divided into two types according to shape: Supplemental and Rudimental. Supplemental refers to eumorphic supernumerary teeth of normal shape and size and may also termed Incisiform. Rudimentary defines as dysmorphic teeth of abnormal shape and smaller size. Rudimentary includes conical, tuberculate and molariform types.1 The tuberculate type has a barrel shape (width is equal to its length) and crown anatomy consisting of multiple tubercles. They are usually palatally positioned to the incisors (Palatodons) [1, 10]. Their close proximity to theincisor and the narrow width of the alveolus in the premaxilla, greatly enhances the palatodont's ability to cause labial displacement [1, 12]. These supernumeraries develop concurrently along with the natural teeth and have complete root formation.

The etiology of Hyperdontia is unknown. The theory of hyperactivity of dental lamina resulting in independent, Hyperdontia is popularly accepted. Likewise, little is known concerning the modes of inheritance or genetic influence of supernumerary dental development. The sex predilication for its occurrence, favors males over females (2: 1) [3, 4, 511] suggesting a possible sex-linked inheritance. In addition, there are several systemic disturbances Cleidocranialdystosis and Gardners syndrome, which have been reported to demarcate a higher prevelance of supernumerary dental formation.

The presence of supernumerary tooth in the premaxillary region often poses unique diagnostic and managerial concerns for the practioner. Without sufficient data, the practitioner is torn between opposing viewpoints as to when and how the problem of anterior supernumerary teeth are confronted. This case report provides an alternative practical approach to this interesting but perplexing clinical entity.

## 2. Case Report

A 22year old male patient reported to comprehensive clinic ofVinayaka Mission's Shankarachariyar Dental College, Salem with chief complaint of irregularly arranged upper front teeth and wanted correction of his unaesthetic smile. Patient has no relevant medical or family history. There were no associated syndromes. On intra oral examination, patient had class I malocclusion with anterior crowding. There was a mesiodens between upper centrals which was palatally placed and rotated. The left central incisor was labially displaced with mild gingival recession [Fig-1, 2]. Various treatment modalities have been discussed with the patient.

1) Extraction of mesiodens and orthodontic correction of the displaced central incisor.
2) Extraction of central incisor and cosmetic buildup of mesiodens, followed with a ceramic crown.

The patient wanted quick smile correction due to the COVID pandemic situation as travel restrictions were strict. Upon patient's choice upper central incisor was extractedand sufficient time was given for wound healing. Mesiodens was shaped and crown cutting was done [Fig-3] to receive a porcelain fused to metal crown. The patient was satisfied with his final aesthetic appearance [Fig-4].

## 3. Discussion

The most common deleterious effect of supernumerary teeth is their ability to interfere with normal occlusal development. The interference can result in unerupted/ impacted or displaced teeth, creating a very unesthetic situation and grave parental concerns.


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Displacement of teeth occur in 22-63%of the cases [15, 16], 83%of the involved teeth will be displaced into labial position [14], similar to this present case report. The dysfunctional nature of supernumerary teeth and their ability to create a variety of pathological disturbancein normal eruption and position of adjacent tooth warrants their early detection and prudent management. If the central incisor is erupted and displaced, removal of mesiodens should be delayed until the laterals erupts and crowding can be effectively relieved by appliance therapy.

In the present scenario, removal of labially erupted permanent incisor was done instead of supernumerary tooth. This technique may fail to provide sufficient attached tissue cervical to the crown of supernumerary tooth compromising the physiologic and esthetic outcome. The severity and urgency of the pandemic situation called upon this alternative treatment plan with concern for the anterior esthetics of the young patient which was affecting him psychologically.

## 4. Conclusion

The presence of supernumerary tooth will be an innocent finding without associated pathology in 7-20% of the cases surveyed. Therefore, the vast majority of these teeth will create some clinical complication. The removal of mesiodens should be undertaken as soon as possible to prevent secondary displacement of adjacent teeth

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**Figure 1:** Labial View showing rotated mesiodens and labially displaced left central incisor.

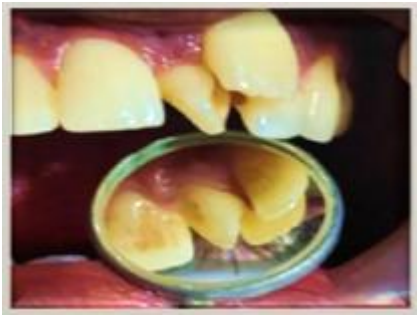

**Figure 2:** Lingual view showing rotated mesiodens and anterior crowding.

**Figure 3:** Labial view of tooth preparation done on mesiodens after extraction of 21

**Figure 4:** Final PFM crowned mesiodens


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