Bilateral Incisiform Superlative Maxillary Permanent Lateral Incisors in a Nonsyndromic Young Girl: A Review and Report of a Case with Comprehensive Management

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ABSTRACT

Aim and objective: This case report aims to describe the management of a case of non-syndromic bilateral incisiform superlative lateral incisors in a young girl.

Background: Supernumerary teeth are an excess number of teeth as compared to the normal dental formula. Supernumerary teeth closely resembling normal tooth shape and morphology are called superlative tooth. Superlative incisiform lateral incisors occurring bilaterally is very rare in the arch.

Case description: This paper describes a case of non-syndromic bilateral incisiform superlative lateral incisors in a 16-year-old female patient and its management by pediatric and orthodontic therapy.

Conclusion: In this case as both the teeth were equally formed, the tooth which is more out of occlusion and causing discomfort will be extracted under local anesthesia and continued with orthodontic treatment for the correction of crowding.

Clinical significance: When superlative teeth are present, they should be investigated and diagnosed properly. Superlative teeth should be managed according to the presenting clinical feature so that further complications can be minimized in the developing dentition.

Keywords: Hyperdontia, Incisiform supplemental teeth, Supernumerary teeth.

INTRODUCTION

The word supplemental or superlative tooth is termed because of the presence of an additional tooth resembling the normal series of dentition.1 The prediction of occurrence in dental arch can be anywhere in arch but more chances in premaxilla with a prevalence of 1.57%.2 They may occur in both jaws or one or maybe seen unilaterally or bilaterally, single or multiple.

The prevalence of superlative teeth in permanent dentition among Caucasian population varies from 0.1 to 3.8% and in primary dentition shows less prevalence from 0.3 to 0.8%.3 Tomes first coined the term supplemental tooth a century ago, where he refers to an additional tooth which bears a resemblance to a tooth of the normal dentition4 but Ashkenazi et al. handed down the term “superlative” for supplemental teeth.5 Various classifications on supernumerary teeth marked out supplemental teeth as normal, incisiform, or eumorphic.6

Superalative maxillary incisors are uncommon supernumery teeth but the incidence of superlative incisiform lateral incisors is reported rare.

The etiology of hyperdontia remains very indeterminate. One theory proposes that these teeth are formed because of local, individualistic, hyperactive conditioned of the dental lamina, another theory puts forward that dichotomy of tooth bud is the reason for the supernumerary.7 The autosomal dominant trait and hereditary, environmental factors are also the important etiological factors in the occurrence of supernumerary teeth.

Hyperdontia in primary dentition is often missed because superlative teeth erupt normal in shape, normal in proper alignment, and can be off targeted as germination or fusion.8

CASE DESCRIPTION

A young girl aged 16 years visited the private clinic in Bengaluru with a chief ailment of additional teeth in the front region of the upper
hygiene as well as esthetic problems, so the decision was made to remove the superlative tooth and align the incisors orthodontically. Before extraction space analysis is done, that is, space required (Table 1) and gained (Table 2).

Bolton analysis showed excess tooth material by 12 mm in upper arch and also excess tooth material in the anterior teeth. Caries arch perimeter analysis indicated extraction in the upper arch.

Summary of model analysis: Space required in the upper arch is 12 mm which was obtained by extraction of bilateral superlative teeth. Space required in the lower arch is 5 mm which was obtained by proximal stripping of the lower arch.

In the present case, as both the teeth were alike, the tooth which was causing discomfort and out of alignment was removed under local anesthesia. After extraction, the patient is advised to continue with orthodontic treatment for the correction of crowding.

Management

The management of such rare condition like superlative tooth should be a fragment of the comprehensive treatment plan and should not be contemplated in isolation. Treatment of such condition mainly depends on the position and type of teeth and its effect on adjoining teeth. Usually, distinguishing the normal tooth from its supplemental twin is very strenuous. If there is any crowding or changes pathologically seen with esthetical problems and difficulty in oral hygiene maintenance removal of such teeth is suggested. In the present case, because of bilateral superlative incisiform lateral incisors there was difficulty in maintenance of oral hygiene as well as esthetic problems, so the decision was made to remove the superlative tooth and align the incisors orthodontically. Before extraction space analysis is done, that is, space required (Table 1) and gained (Table 2).

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Treatment objectives were to maintain class I molar relation bilaterally, to relieve crowding in the upper and lower anterior region, to achieve ideal overjet and overbite, and to achieve a pleasing soft tissue profile.

The treatment plan involves fixed mechanotherapy, preadjusted edgewise appliance, Mclaughlin Benett Trivesi 0.022 Slot.

Extraction of the supplemental tooth was done, followed by placement of posterior bite block in the lower arch to relieve occlusion in the anterior region. Banding and bonding were done in the upper arch and leveling and alignment were done by the
Bilateral Incisiform Superlative Lateral Incisors with Comprehensive Management Plan

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and environmental factors. 7 However, a very few disorders and syndromes like cleft lip and palate, cleidocranial dysostosis, Gardner’s syndrome, and chondroectodermal dysplasia are associated with multiple supernumerary teeth in literature.8 In the present case, patient was devoid of any syndromes.

In most of the instances seen superlative teeth remain unerupted and are analog with a variety of clinical problems such as displacement or rotation, root resorption of the surrounding teeth, dilaceration, failure or delayed eruption of the adjacent tooth, esthetic disturbances, diastema, and dentigerous cyst.7 Patient in our case had superlative teeth next to permanent maxillary central incisor teeth causing the disturbance in occlusion, and the patient displayed crowding in the anterior region.

Diagnosis of such situation should be done early to avoid any further complication.

American Academy of Pediatric Dentistry emphasized the complete clinical examination before arriving at a diagnosis and come about a treatment plan, and also put forwarded that diagnostic radiography should be done compulsory for children

**Table 1:** Showing Bolton analysis for space required

|                       | Upper |         | Lower |         |
|-----------------------|-------|---------|-------|---------|
|                       | Right | Left    | Right | Left    |
| Molar correction      | 0     | 0       | 0     | 0       |
| Crowding              | +7    | +5      | 0     | +2      |
| Proclination          | 0     | 0       | 0     | 0       |
| Rotation              | 0     | 0       | 0     | 0       |
| Curve of Spee         | 0     | 0       | +1.5  | +1.5    |
| Midline shift         | +1    | −1      | 0     | 0       |

Upper: 12 mm, lower: 5 mm

**Table 2:** Showing Bolton analysis for space regained

|                       | Upper |         | Lower |         |
|-----------------------|-------|---------|-------|---------|
|                       | Right | Left    | Right | Left    |
| Molar distalization   | 0     | 0       | 0     | 0       |
| Extraction            | +7    | +5      | 0     | +2      |
| Proximal stripping    | 0     | 0       | 0     | 0       |
| Rotation              | 0     | 0       | 0     | 0       |

**Fig. 5:** Showing photograph of orthodontic leveling and alignment of postextraction of bilateral superlative lateral incisors

**Fig. 6:** Showing photograph of postoperative orthodontic correction

Typical anatomy of teeth is seen in superlative supernumerary teeth. In literature, genesis of superlative lateral incisors rarely occurs, but incidence of bilateral cases often seen very rare and reported less in the literature to date.9

Nevertheless, the etiology in such condition is still very undetermined; but the possible reasons could be the inheritance and environmental factors.7 However, a very few disorders and syndromes like cleft lip and palate, cleidocranial dysostosis, Gardner’s syndrome, and chondroectodermal dysplasia are associated with multiple supernumerary teeth in literature.8 In the present case, patient was devoid of any syndromes.

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When superlative teeth are present, they should be investigated and diagnosed properly. If there is arch length discrepancy extraction of superlative teeth can be planned. Superlative teeth should be managed according to the presenting clinical feature so that further complications can be minimized in the developing dentition.

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**CONCLUSION**

To conclude, dentists should do a thorough clinical and radiographical examination of the oral cavity before coming to diagnosis and to develop a treatment plan. As a practitioner, to identify the patient’s developmental anomalies of teeth and pathologic conditions of the hard and soft tissues, jaws, and associated structures radiographic views will complete the clinical examination. Comprehensive interdisciplinary management is a must in managing such cases.

**CLINICAL SIGNIFICANCE**

Teeth that resemble a particular tooth from the normal dentition with normal shape and size are called superlative teeth.