Non-syndromic Supplemental Permanent Maxillary Lateral Incisor: A Rare Case Series

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Supernumerary teeth, or hyperdontia, are the additional teeth to the normal series and are seen in all quadrants of the jaw. They have been reported to occur in both primary and permanent dentition. The supplemental supernumerary refers to duplication of teeth in the normal series and is found at the end of the tooth series. The majority of supernumeraries found in primary dentition are of the supplemental type. It is rare and was overlooked because of their normal size and shape. Hereby, we report three cases of supplemental maxillary permanent lateral incisor which resulted in crowding and poor esthetics. This case series reports unilateral supplemental teeth and its management.

**Keywords:** Hyperdontia, Incisiform supplemental teeth, Supernumerary maxillary lateral incisor, Supernumerary tooth, Supplemental teeth

**INTRODUCTION**

Tome’s first used the term supplemental tooth to describe an extra tooth that resembled a normal series of the dentition.¹ Supplemental teeth were also described by the term “superlative.”² It is also classified as normal, incisiform, or eumorphic.³ Supplemental maxillary incisors are rare to occur than conical or tuberculate supernumerary teeth in this region.³

Multiple supernumerary teeth in individuals with no other associated diseases or syndromes are rare.² Cleft lip and palate, Cleidocranial dysostosis, Gardner’s syndrome, Fabry Anderson’s syndrome, Chondroectodermal dysplasia, and Ehlers–Danlos syndrome are commonly seen with supernumerary teeth.³

The etiology of hyperdontia remains unclear. One theory suggests that these teeth were formed because of local, independent, conditioned hyperactivity of the dental lamina.² Another theory states that the supernumerary tooth was formed because of a dichotomy of tooth bud.⁵ Hereditary, environmental factors are considered as etiological factors in the occurrence of supernumerary teeth. The autosomal dominant trait was also suggested.

Supernumerary teeth were classified by position or shape.⁶ Positional variations include mesiodens, paramolars, disto molars, and para premolars. Supernumerary teeth of normal shape and size are termed as “supplemental,” whereas teeth of abnormal shape and smaller size are termed as “rudimentary” and include a “conical,” “tuberculate,” and “molariform” teeth.⁷

This case series describes the rare occurrence of unilateral supplemental teeth without any association with the syndrome and its management.

**CASE REPORTS**

**Case 1**

A 21-year-old female patient reported to the clinic with the chief complaint of teeth missing in the anterior region of the lower jaw. The familial, medical, and dental histories were not relevant. The extra-oral examination did not reveal any abnormalities.
Intra-oral examination revealed an edentulous lower anterior region extending from 43 to 32. The left mandibular lateral incisor was rotated and lingually inclined.

In addition to this complaint, incidentally, there was a supernumerary tooth in the maxillary arch on the left side that was palatally placed. It resembled the permanent maxillary lateral incisor. The morphology and the size of the supernumerary teeth were similar to the permanent maxillary lateral incisor and were located between erupted 11 and 12 (Figure 1).

Intra-oral periapical radiograph (Figure 2) revealed the supplemental permanent maxillary lateral incisor with fully formed crown and root formation. There were no disturbance or changes in the adjacent teeth.

However, the supplemental lateral incisor was impinging on the left mandibular permanent lateral incisor that was interfering with occlusion for the construction of a fixed partial denture. The patient was advised to extract the supplemental tooth for esthetic rehabilitation of lower denture.

**Case 2**

A 58-year-old female patient reported to the clinic with the chief complaint of decay in the right upper front tooth region. There were no significant familial, medical, and dental histories. The extra-oral examination did not reveal any abnormalities.

Intra-oral examination revealed a supplemental tooth of maxillary lateral incisor on the right side of the maxillary arch adjacent to the permanent maxillary lateral incisor. The morphology and the size of the supernumerary teeth were similar to the permanent maxillary lateral incisor and were present in between 12 and 13 (Figure 3).

The patient had class 1 molar occlusion and had no interference with occlusion in this case, and the decay was due to the loss of contact and food lodgement in between 12 and the supplemental tooth.

Intra-oral periapical radiograph (Figure 4) was taken which revealed the extra permanent maxillary lateral incisor with complete crown and root formation present in between the 12 and 13. There were no disturbance or changes in the adjacent teeth.

The management included the restoration of dental caries in the distal aspect of the permanent maxillary lateral incisor.

**Case 3**

A 21-year-old female patient complained of pain in the upper front tooth region. The familial, medical, and dental histories were not relevant. The extra-oral examination did not reveal any abnormalities.

Intra-oral examination revealed decay on the palatal aspect of the permanent maxillary lateral incisor adjacent to the canine. In addition to this complaint, incidentally, there was a supernumerary tooth in the maxillary arch on the same side adjacent to the carious tooth. It resembled the maxillary lateral incisor. The morphology and the size of the supernumerary teeth were similar to the permanent maxillary lateral incisor (Figure 5a and b). The palatal
inclination and intrusion of the teeth made us conclude that the tooth with decay was considered as supplemental teeth. Intra-oral periapical radiograph (Figure 6) revealed the supplemental permanent maxillary lateral incisor with complete crown and root formation. There were no disturbance or changes in the adjacent teeth. However, the supplemental lateral incisor showed no response to electric pulp tester and was diagnosed as non-vital teeth. The management includes the treatment of the supplemental teeth using root canal treatment and restoring with permanent composite filling.

**DISCUSSION**

Supernumerary teeth are common in the maxilla as compared to that of the mandible, and the most affected area is the premaxilla. The prevalence rates of supernumerary teeth vary between 0.1% and 6.9% in the permanent dentition. However, males are more commonly affected than the females with a ratio of 1.1:1. The conditions commonly associated with supernumerary teeth include cleft lip and palate, Cleidocranial dysplasia, Gardner’s syndrome, Fabry Anderson’s syndrome, Chondroectodermal dysplasia, and Ehlers–Danlos syndrome. The presence of genetically determined syndrome can be arrived from the familial history from the patient. However, in our cases, there was no relevant positive familial history which made us conclude as non-syndromic.

Few cases have been reported in literature until date. If a supplemental tooth is present, it is most commonly seen in the anterior maxillary region in the permanent dentition which is in concurrence with our case. In most of the cases, erupted supplemental teeth is part of the normal dental series. The inheritance and environmental factors were considered as possible reasons for the etiology. Interference with the stage of initiation, atavism continued the proliferation of remnants of the dental lamina, producing a “third dentition,” and/or dichotomy of the tooth germ, and produces two or more separate units. The tooth bud splits into two parts of equal or unequal size resulting in two teeth of equal size or one normal and one abnormal tooth. The presentation of only one permanent supplemental tooth in all the three cases seems to further complicate the question of etiology in hyperdontia cases.

Supernumerary teeth are detected as a chance finding during clinical or radiographic examinations and are mostly asymptomatic. It is essential to identify the supernumerary teeth clinically and radiographically, before a definitive diagnosis and a treatment plan can be formulated. This case series is rare, as it demonstrates unilateral supernumerary lateral incisors without any associated syndrome.

Commonly encountered with supplemental teeth are clinical problems such as failure of eruption, displacement or rotation, crowding, abnormal diastema, dilacerations, cystic formation, and ectopic eruption in permanent dentition. Failure of eruption of adjacent permanent teeth is the most frequently occurring complication. However,
in both of our cases, the supplemental lateral incisor did not disturb the formation of adjacent teeth except for the displacement causing unesthetic appearance in case 1.

Clinical and radiographic evaluation of the supplemental teeth is necessary to draw a treatment plan. In our cases, case 1 had healthy teeth, but the displacement of supplemental teeth palatally was observed which required extraction as suggested in the literature for replacement with fixed partial denture in the lower arch. Case 2 and 3 had supplemental teeth between the canine and the lateral incisor and did not pose any problems such as arch irregularity, caries, and malocclusion. So, treatment was deferred for case 2. Similarly, a supplemental tooth in case 3 was non-vital and hence required endodontic treatment.

**CONCLUSION**

The case series emphasizes the importance of treatment plan that can be carried out by careful diagnosis based on the clinical and radiographic picture. Extraction of supernumerary teeth is not always the rule as long as it does not affect the adjacent teeth or cause any malocclusion.

**REFERENCES**