UNILATERAL SUPPLEMENTAL PRIMARY MAXILLARY LATERAL INCISOR: REPORT OF TWO CASES

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ABSTRACT: Supernumerary teeth are less common in primary dentition. However, the maxillary lateral incisor is one of the most commonly occurring supernumerary teeth when it comes to supplemental type. Supplemental teeth are often overlooked because of their morphology that mimics a normal tooth. They may often lead to esthetic problems, delayed eruption and crowding, requiring early diagnosis and treatment to prevent complications. Supernumerary teeth in the primary dentition are often accompanied by corresponding permanent supernumerary usually in the same area. The present cases are a rare exception though.

KEYWORDS: Supernumerary teeth, supplemental teeth, primary maxillary lateral incisor.

I. INTRODUCTION

Supernumerary tooth was defined as “any tooth or odontogenic structure that is formed from tooth germ in excess of usual number for any given region of the dental arch.”[9]

Many cases have been reported to know the prevalence of supernumerary teeth in primary or permanent dentition. Studies show that supernumerary teeth occur frequently in permanent dentition, but they are less prevalent in primary dentition. However, there is paucity of literature regarding the occurrence of a specific type of supernumerary tooth in the primary dentition, including the supplemental type. Also, deciduous supernumerary teeth are often followed by eruption of corresponding permanent supernumerary teeth, usually in the same region. Contrary to this finding, we have presented two cases of supplemental tooth in primary dentition.

Presence of one or more supernumerary teeth is one of the most common findings in orthodontic patients since supernumerary teeth can cause a tooth size – arch length discrepancy, crowding and other problems related to malocclusion. The most common treatment of choice is extraction of supernumerary teeth until it can be beneficially used in some patients where indicated.

The exact etiology of supernumerary teeth is not known. Various theories exist to justify the presence of different types of supernumerary teeth.

• Dichotomy: One of the theories suggests that the supernumerary tooth occurs as a result of dichotomy of the tooth bud. Dichotomy means division of the tooth bud into two teeth both of equal size or one normal and one dysmorphic tooth that have two equal or different sized parts.

• Hyperactivity of the dental lamina: Another theory mentions the hyperactivity theory which suggests that supernumerary teeth are formed as a result of local, independent and/or conditioned hyperactivity of the dental lamina, caused by the induction factors that lead to initiation of the epithelial remnants.

• Heredity: Heredity may also play a role, because supernumerary teeth, as per previous studies, are more common in relatives of affected children than in unaffected ones, but it necessarily does not follow a simple Mendelian pattern.

• Atavism: A rare theory that is said to lead to eruption of a supernumerary tooth is Atavism. It is an evolutionary throwback, which suggests the reappearance of the traits that had disappeared generations before due to phylogenetic evolution. Supernumerary teeth are a result of reversion phenomenon.
Supernumerary teeth are one of the most significant dental anomalies that affect the primary and early mixed dentition and may cause various pathological disturbances to the developing dentition. Early diagnosis followed by prompt treatment is required for prevention of negative effects on dentoalveolar structures. However, the time of intervention is the most pivotal factor governing the outcome of these cases.

II. PREVALENCE

In a survey done in 2000 schoolchildren, Brook had found that the occurrence of supernumerary teeth was in 0.8% of primary dentitions and in 2.1% in case of permanent dentitions. Occurrence may be single as well as multiple, unilateral or bilateral, erupted or impacted, and in either of or both jaws. Multiple supernumerary teeth are usually rare in individuals without other associated diseases or syndromes. The conditions that are commonly related with an increased prevalence of supernumerary teeth include cleft lip and palate, cleidocranial dysplasia and Gardner syndrome. Supernumerary teeth that are associated with cleft lip and palate basically result from fragmentation of the dental lamina during the formation of cleft. The frequency of supernumerary permanent teeth was found to be 22.2% in the cleft area of children with unilateral cleft lip or/and palate. The frequency of supernumerary teeth in patients with cleidocranial dysplasia was seen to range from 22% to 5% in the maxillary incisor and molar region, respectively. While there is no significant sex distribution in case of primary supernumerary teeth, males are said to be affected approximately twice as frequently as females in the permanent dentition.

III. CLASSIFICATION

A. According to shape:
   - Supplemental – morphologically similar to a tooth of the normal dentition.
   - Rudimentary – morphologically doesn’t resemble a normal tooth. Maybe conical or tuberculate.
   - Odontome – doesn’t resemble any teeth but is only a mass of dental tissue.

B. According to position:
   - Mesiodens – present in the incisor region.
   - Paramolars – present beside a molar.
   - Distomolars – present distal to the last molar.
   - Para-premolars – present beside a premolar.

IV. CASE 1

A 7-year-old girl reported to the Department of Pedodontics & Preventive Dentistry of Guru Nanak Institute of Dental Sciences & Research with a chief complaint of malaligned teeth in the upper front tooth region. On extraoral examination, no relevant finding was observed. Intraoral examination revealed that the girl was in an early mixed dentition stage, with Angle’s Class I molar relationship on both the sides and the presence of a supernumerary tooth.
Clinically, two teeth were seen between 11 and 53, resembling primary lateral incisor morphologically, one of which was placed labially. In the intraoral periapical radiograph, presence of two teeth resembling primary lateral incisors, followed by the tooth bud of permanent lateral incisor with incompletely formed root, was seen. No extra tooth bud was seen in the immediate vicinity of primary maxillary right lateral incisor.

V. CASE 2

A 6-year-old girl reported for a general check-up. Similar to the above-mentioned case, on extraoral examination, no relevant finding was observed. Intraoral examination revealed that the girl was in a deciduous dentition stage, with caries in six teeth and the presence of a supernumerary tooth.

Clinically, two teeth were seen between 51 and 53, resembling primary lateral incisor morphologically, one of which was mesially rotated. A similar finding was observed in the OPG with no presence of any extra tooth bud in the permanent dentition of both upper and lower jaw.

In both the cases, the crown and root morphology of the lateral incisor and the associated supplemental tooth were identical. Owing to the fact that primary maxillary lateral incisor is one of the most commonly appearing supplemental teeth in the dental arch [6] [7] followed by the above-mentioned findings, we can clearly diagnose this “extra tooth” as a supplemental tooth.

CONSIDER REMOVING A SUPERNUMERARY TOOTH IN A CASE LIKE THIS ONLY IF:

- Eruption of central incisor has been delayed or inhibited
- There is evidence of altered eruption or displacement of central incisors
VI. DISCUSSION

Reports mention the prevalence of supernumerary teeth within the mandible and maxilla varying from 0.2-0.9%. They may occur in any region of dental arch with a particular predilection for the maxilla. [1][2] The term supplemental in case of a supernumerary tooth is used when the tooth is extra but has the shape and size of normal teeth. [3][4]

Supernumerary incisors may cause delayed eruption of the permanent teeth, displacement or rotation of adjacent teeth or, in a small percentage, may have no effects on the dentition. [5]

The commonest type of maxillary supplemental tooth is the supplemental lateral incisor with bilateral cases being rare, making up 8% of the total. [6][7] The majority of supernumerary teeth found in the primary dentition is of supplemental type and are seldom impacted. [8]

Treatment depends on the type and position of supernumerary tooth and on its effect on adjacent teeth. Management of supernumerary tooth should be a part of comprehensive treatment plan and should not be considered in isolation. Usually it is difficult to distinguish the normal tooth from its supplemental replica. Supplemental supernumerary teeth should be observed till the child is old enough, only if it is not interfering with the development and eruption of adjacent teeth. Removal of a supernumerary tooth is recommended in cases where they are causing any kind of pathological changes or crowding, along with esthetical problems and difficulty in oral hygiene maintenance.

A careful radiographic survey of both dental arches will provide the clinician and the parents with a preview of any potential problems likely to develop during the course of the child’s growth and development. In case of our patients, supplemental teeth in the primary dentition were not supplanted by supplemental teeth in the same location in the permanent dentition. Although there is no recommendation of treatment of supernumerary teeth in the primary dentition, the child’s guardians were informed about the range of possible consequences that may arise in the permanent dentition in future, even in the absence of any effects seen presently in radiographs of the affected area. In case of an erupted supplemental tooth, as in our cases, it is difficult to determine which of the teeth is supplemental and which one is a part of the normal dental series. Therefore, if both teeth are asymptomatic and healthy, it is logical to extract the tooth that is most displaced from the line of arch, so as to relieve crowding, if at all extraction is considered. The parents, however, did not want the child to undergo extraction or any sort of treatment and wished to wait and observe. Therefore, the supplemental teeth in both the cases were left as they presented and the parents were asked to report the child for follow-up every 3 months.

VII. CONCLUSION

The presence of supernumerary teeth is not an uncommon occurrence in primary dentition and is observed in both arches. The decision on proceeding with the treatment of supernumerary teeth should be based on the full clinical picture. But treatment varies depending upon the age of patient, cooperation on dental chair, and position of supernumerary tooth and their effects. The future researches can be aimed at evaluating the arch length in patients with supernumerary teeth in order to see and confirm the effect of number of teeth on the development of jaw bone.

REFERENCES