

## NON SYNDROMIC BILATERAL SUPPLEMENTAL PERMANENT MAXILLARY LATERAL INCISORS- A CASE REPORT WITH 6 YEAR FOLLOW UP

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**Abstract:** Supernumerary tooth is a frequently seen developmental anomaly with a controversial debate on its multiple etiologies. They may either erupt into the oral cavity or remain embedded in the alveolar bone sequencing various complications to the developing dentition. Supernumerary teeth may be present in various forms at any region of maxilla or mandible. Certain supernumerary tooth resembling the orthodox shape and size of their adjacent permanent tooth are known as supplemental tooth. Underneath, is the case presentation of unusual location of supernumerary teeth located adjacent to maxillary lateral incisors bilaterally and its follow up of 6 years to check for any malocclusion or problems related with it.

**Keywords:** Supernumerary teeth, Supplemental tooth, Lateral incisors, Anomaly, Hyperdontia

**Introduction:** Teeth exceeding the normal dental complement regardless of their location and morphology are termed as supernumerary teeth. Their occurrence has wide variations in number- single or multiple, sides- unilateral or bilateral and location in jaws- either maxilla or mandible and sometimes in both the jaws.<sup>1</sup>

The permanent dentition have a significant prevalence of supernumerary teeth than primary dentition. Gender wise, prevalence of this anomaly in males is twice to that in females.<sup>2</sup> Incidence of the supernumerary teeth is paramount in maxilla about 8.2 to 10 times more than mandible.<sup>3</sup> Premaxilla is the most predominant site for occurrence of supernumerary teeth followed by mandibular premolar region.<sup>4</sup>

Supernumerary teeth on the basis of it's location and morphology can be classified as conical, tuberculate, supplemental and composite odontomes.<sup>5</sup> Supernumerary teeth can be either single or multiple. If, multiple it can be either syndromic or

non-syndromic. Cleft lip/ palate, Cleidocranial dysplasia, Gardner syndrome are few syndromes associated with this anomaly.<sup>6,7</sup> Evidence and reports of multiple supernumerary teeth are well documented in literature, with most of it being either conical or tubercular teeth. Incidence of the supplemental maxillary lateral incisors is a very rare as in the above literature.<sup>8</sup> The case report of one such rarity of bilateral supplemental lateral permanent lateral incisors is elaborated underneath.

**Case Report:** A 9 year old girl came to our institution, Kalinga Institute of Dental Sciences, Bhubaneswar, Odisha for a regular dental check up 6 years back. Patient reported of extraction of both upper first primary molars in her previous dental visits. On thorough intraoral examination of mixed dentition of the kid there was caries in upper left second primary molar, bilaterally extracted upper first primary molars, erupting upper left supplemental incisor and palatally erupting upper right supplemental lateral incisor. (*Figure-1:1a,1b,1c, 1d*)

The patient was unaware of its existence and considered it as just another erupting permanent teeth. Radiographic investigations by Orthopantomograph & Intraoral periapical radiograph revealed it to be erupting supernumerary teeth on both the sides, morphologically resembling to the maxillary lateral incisors bilaterally.

The patients parents did not give consent for extraction of these teeth as its presence in their child's oral cavity caused no harm to her, despite explaining them the consequences of it in future if not extracted. The exfoliating Grade-1 mobile upper right primary lateral incisor was extracted to prevent the ectopic eruption and malocclusion of upper right supplemental lateral incisor. (*Figure-2 & Figure-3*)

The patient was followed up on regular intervals of 1 year for 6 years to check the course of eruption of other teeth and intervene any malocclusion of erupting permanent teeth. All the permanent first molars had carious lesions in the follow ups and restored subsequently, except right upper first permanent molar which was grossly decayed and extracted. By the end of 6 years follow up when patient had turned 15 years old, all the permanent teeth had erupted except the third molars which still had time for eruption and all teeth in proper alignment including the left supplemental lateral incisor. (*Figure-4a, Figure- 4b*)

**Figure -1:** preoperative view of bilateral maxillary supplemental lateral incisors:

(a) Frontal view (b) Right lateral view (c) Left lateral view (d) Occlusal view

**Figure- 1 (a)**



**Figure- 1 (c)**

**Figure- 1 (b)**



**Figure- 1 (d)**



**Figure -2:** Extraction of upper right primary lateral incisor



**Figure -3:** Extracted upper primary right lateral incisor



**Figure - 4:** evaluation of alignment of all the permanent teeth after 6 years- (a) clinical photograph (b)- orthopantomograph /radiograph

**Figure- 4 (a)**



**Figure- 4 (b)**



**Discussion:** Supernumerary teeth can be either single or multiple. If, multiple it can be either syndromic or non-syndromic. Cleft lip/ palate, Cleidocranial dysostosis, Gardner syndrome are most common syndromes associated with this anomaly.<sup>6,7</sup> It can also be

seen in other syndromic developmental disorders i.e. fabry anderson's syndrome, chondroectodermal dysplasia in ellis van creveld syndrome, ehlers- danlos syndrome, incontinentia pigmenti and trico-rhino phalangeal syndrome.<sup>9</sup> Syndromic multiple supernumerary teeth are generally embedded/ impacted in the alveolar bone lacking space for its accommodation in the arch. Though a number of theories justifying its relative etiology have been proposed like atavism, tooth germ dichotomy, hyperactivity of dental lamina and genetic factors comprising a dominant autosomal trait characterized by low penetrance, absolute etiology of supernumerary teeth still remains unclear.<sup>10</sup>

Supernumerary teeth according to their morphology can be classified into 4 types- conical, tuberculate, supplemental and odontomes.<sup>5</sup>

**Conical supernumerary teeth:** It is most commonly found in permanent dentition. It may resemble the size of the counterpart incisor or peg shaped smaller in size. Its root formation starts simultaneously or ahead of permanent incisors. A conical supernumerary tooth seen in between maxillary central incisors is known as mesiodens. **Tuberculate supernumerary teeth:** The tuberculates are mostly paired, with rare eruption into the oral cavity. It is larger in size and is barrel shaped having more than one cusp or tubercle. Its root formation is comparatively delayed than permanent incisors. Tuberculates are most frequently seen in the palatal side of the central incisors.<sup>11</sup>

**Supplemental teeth:** these are the supernumerary duplication of normal teeth resembling their orthodox shape and size. These teeth generally erupt after the complete eruption of its original teeth. This anomaly in contrast with others is prevalent more in primary dentition than permanent dentition. It can be called as incisiform or eumorphic depending on their morphology and location. Supplemental lateral incisors, Supplemental premolars, paramolar, distomolar are various types of this anomaly. The fourth supplemental molar is known as paramolar if it is on the buccal or lingual side and distomolar on the distal to the third molar.<sup>12,13</sup>

**Odontoma / Composite Odontomes:** Any tumor of odontogenic origin is known as odontoma. Though not universally accepted Howard listed odontoma as a fourth type of supernumerary tooth. View of odontoma hamartomatous malformation rather than neoplasm supports its consideration as a supernumerary tooth. It is composed of more than one type of tissue and hence, is known as composite odontomes. Odontomes are further categorized as complex composite odontome: a complete disorganized diffuse mass of dental tissue and compound composite odontome: a dental tissue malformation bearing a superficial anatomic resemblance to the normal tooth.<sup>14</sup>

The Prevalence rate of the supernumerary teeth is higher in permanent dentition around (0.5-3.8%), compared to primary dentition which is about (0.3-0.6%).<sup>3</sup> These anomalous teeth can be frequently seen clinically when erupted and radiographically, if embedded inside the alveolar bone. The likely reason for limited reports of this anomaly in primary dentition may be failure of its detection by parents attributed to the fact of the supernumerary tooth occupying the physiological spaces present in primary dentition and erupting in a considerable alignment. An unerupted supernumerary tooth can cause minimal or no affect on adjacent tooth but mild to severe problems in

occlusion and alignment of rest of the teeth. It is not only essential to enumerate, but also identify the site and position of the supernumerary teeth clinically and radiographically to formulate a definite diagnosis and treatment plan.

Supernumerary teeth may erupt normally, remain impacted, appear inverted or assume an abnormal path of eruption. Crowding may be evident due to an increased number of erupted teeth resulting in failure of eruption of adjacent permanent tooth or ectopic eruption in a misalignment in 30- 60 % cases. This anomaly can also cause displacement of adjacent tooth resulting in malocclusion like midline diastema, adjacent teeth root resorption, malformation of adjacent tooth like dilaceration and loss of vitality of adjacent teeth.<sup>8,11</sup>

There are different treatment modalities described in literature for patients with multiple hyperdontia not associated to complex syndromes. Treatment depends upon the position and clinical manifestations of the supernumerary tooth.<sup>15</sup> Thus, an early diagnosis is of utmost importance in order to decide among extraction, extraction followed by an orthodontic treatment or simple monitoring or control of the supernumerary teeth with a view to minimizing the risk of complications secondary to the presence of these teeth. Surgical management in turn ranges from removal of the supernumerary tooth to removal followed by an orthodontic treatment aiming to ensure correct occlusion. In the more complex cases, there is a possibility of existence of multiple impactions of supernumerary teeth resulting the destructured dental arch, with numerous teeth in malocclusion.<sup>16</sup> These situations require an efficacious interdisciplinary cooperation to define combined surgical- orthodontic management.<sup>17</sup>

**Conclusion:** Supernumeraries can be the reason of variety of complications. The clinicians should recognise the signs suggesting the presence of supernumerary teeth, particularly aberrations in the eruptive pattern and perform the relevant investigations. Early detection and diagnosis of these supernumerary teeth if present is essential to plan a definitive treatment for its removal to prevent and minimize any complications in developing dentition and occlusion.

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