

CASE REPORT

Non-Syndromic Multiple Impacted Supernumerary Teeth with Concomitant Hypodontia – A Rare Entity

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Abstract:

Background: Concomitant hypo-hyperdontia is an uncommon condition of coexistence of partial anodontia and supernumerary teeth. Its etiology is still unknown. Very few cases have been reported in the literature of this condition. *Case history:* Presented here is a rare case of simultaneous presence of multiple supernumerary teeth without any associated systemic conditions or syndromes involving both jaws. Our case reports 16 impacted supernumerary teeth with no associated syndrome.

Key words – supernumerary teeth, non syndromic, impacted teeth

Introduction:

The simultaneous occurrence of hypodontia and supernumerary teeth in the same individual is termed ‘concomitant hypo-hyperodontia’ (CHH). There appears to be a correlation between CHH and some syndromes, but this anomaly is very rare in the general population [1]. The etiopathogenesis of this simultaneous hyper- hypodontia is obscure [2]. Disturbance in migration, proliferation and differentiation of the neural crest cells and interaction between the epithelial and mesenchymal cells during initiation stage of tooth development has been suspected as possible cause [3]. Very few such

cases have been reported in the literature.

Case Report:

A 12 year boy reported with complaint of malpositioned teeth. Intra oral examination revealed unerupted left central incisor and multiple edentulous areas in the maxillary and mandibular arch. There was no relevant medical and family history and the patient was otherwise healthy. Routine radiographic investigations were carried out to evaluate the status of dentition. The orthopantomogram revealed multiple unerupted permanent teeth and supernumerary teeth. Patient was otherwise normal in appearance, did not exhibit any physical or skeletal abnormality and showed no signs of mental retardation. Chest and skull radiograph were also normal.

On intraoral examination all permanent teeth were present in right side of upper jaw and on left side were missing central incisor, lateral incisor and canine teeth. In the lower jaw on right side teeth present were central, lateral incisor canine deciduous 1st and 2nd molar, permanent 1st and 2nd molar. On left side central and lateral incisor were present along with permanent 1st and 2nd molar.

OPG revealed 7 supernumerary teeth in lower anterior region obstructing the eruption path of permanent anteriors and canines. Due to

supernumerary teeth canines were displaced at lower border of mandible. There was also evidence of crypts of developing supernumerary teeth distal to developing mandibular third molars on either side. 6 supernumerary impacted teeth were seen in the anterior maxillary region. Developing teeth

Fig. 1: Frontal view



Fig. 2: Intraoral photograph showing unerupted left maxillary central incisor



Fig. 3: OPG showing multiple impacted supernumerary teeth



Fig. 4 : Maxillary and mandibular study models



buds distal to the maxillary third molars were also seen on both right and left side.

Discussion:

Literature reports the presence of supernumerary teeth in mandible and maxilla varying from 0.2 - 0.9% [4]. They may occur in any region of dental arch with a particular predilection in maxilla [5, 6]. The multiple supernumerary teeth are commonly associated with variable syndromes [7]. There is predilection of non-syndrome multiple supernumerary teeth to occur in the mandible, with predominance to occur in the premolar area, followed by the molar and the anterior region respectively.

Only a few cases of non-syndrome multiple impacted teeth have been reported [8, 9]. Impacted teeth are those which are prevented from eruption by some physical barrier in the eruption path.

The clinical and radiographic examinations of our patient has revealed relatively normal sized jaws and teeth despite the fact that some dental crown-root abnormalities have been detected. Abnormalities of tooth morphology are related to inadequate space and arrested eruption. Delayed or arrested eruption is probably caused by diminished resorption of bone and of primary teeth and to the presence of multiple supernumerary teeth [8].

The exact etiology of supernumerary teeth is still obscure although many theories have been proposed. The two popularly accepted theories are:

1. The dichotomy theory of tooth germs states that the tooth bud splits into two equal or

different sized parts, resulting in two teeth of equal size or one normal and one dismorphic tooth respectively. This hypothesis is supported by animal experiments in which split germs have been cultivated *in vitro* [10].

2. Localized and independent hyperactivity of dental lamina is the other accepted theory, which suggests that supernumerary teeth are formed as a result of local, independent, conditioned hyperactivity of dental lamina [5].

The presence of multiple supernumerary teeth is usually associated with problems of displacement, rotation, ectopic eruption of the adjacent teeth, resorption of adjacent teeth and even the formation of primordial cyst [11, 13]. It is difficult to establish an ideal treatment for cases of multiple supernumeraries. The clinical and radiographic examination is of vital importance to carry out a good treatment plan which can vary from simple extractions or surgical extractions followed by orthodontic treatment to obtain a correct occlusion [12]. We emphasize the importance of a good clinical history when a patient with multiple supernumerary teeth comes for consultation, since most of them are associated with other syndromes and their presence must be ruled out. To achieve optimum function and aesthetics, an interdisciplinary co-operation between the oral surgeon, orthodontist, prosthodontist and pedodontist is required for the management of the case [14].

Conclusion:

Radiographic examination may reveal multiple supernumerary impacted teeth in cases of clinical absence of teeth. Lack of eruptive

forces and rotation of tooth bud may cause multiple impactions. However, multiple supernumerary teeth not associated with syndrome are rare anomaly. Thus it is of vital importance that a complete systemic examination be carried out to exclude any systemic or metabolic disorders and rule out the presence of any syndrome.

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