

MANAGEMENT OF SUPPLEMENTAL TEETH: A CASE REPORT

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ABSTRACT:

Supernumerary teeth are the one which is additional or in excess of the normal number. They can be either single or multiple, unilateral or bilateral and can be present anywhere in the dental arch with the predilection for the premaxilla. It is a developmental anomaly and may be multifactorial in etiology. Most problems associated with supernumerary teeth are due to their ability to delay, displace, or prevent eruption of permanent teeth. The supernumerary teeth may result in oral problems like malocclusions, food impaction, poor esthetics and formation of cyst. The management of supernumerary teeth should form part of comprehensive treatment plan.

This article represents a case where a young girl has two supplemental teeth palatal to maxillary anterior teeth. Extraction of two supplemental teeth was followed by orthodontic correction with fixed mechanotherapy bringing an esthetic look to the patients face.

Keywords: Supernumerary tooth, supplemental teeth, orthodontic treatment.



INTRODUCTION

Supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch^[1]. It can be single or multiple, unilateral or bilateral, malformed morphologically or normal in size and shape, and erupted or impacted^[2,3,4]. Brook found that they were present in 0.8% of primary dentition and 2.1% of permanent dentition^[5]. Males are affected approximately twice as often as females^[1,6].

The etiology of supernumerary teeth remains unclear. One theory suggests that it is created as a result of a dichotomy of the tooth bud^[7]. The hyperactivity theory is most accepted suggesting formation of supernumerary

teeth due to local, independent, conditioned hyperactivity of the dental lamina^[7,8]. Heredity and a combination of genetic and environmental factors may also play a role in the occurrence of this anomaly.

Supernumerary teeth are classified according to morphology and location. The morphology is usually normal or conical in primary dentition whereas in permanent dentition they may be conical, tuberculate, supplemental and odontome type^[9,10]. According to location supernumerary teeth may be mesiodens, paramolar- present beside a molar, Distomolar- present distal to the last molar and parapremolar – in the premolar region. Primosch classified supernumerary teeth into two types according to their shape: supplemental or

rudimentary. Supplemental or eumorphic are supernumerary teeth of normal shape and size whereas rudimentary teeth are of abnormal shape and smaller size ^[11]. Supplemental teeth are of normal shape and size and are often referred to as incisiform. They appear most commonly as extra maxillary and mandibular lateral incisors in the permanent dentition, and maxillary central incisors in the primary dentition ^[12]. A supplemental tooth may exhibit a deep cingulum pit and have a coronal invagination ^[13]. In the permanent dentition, the supplemental incisor is likely to result in excess overall tooth material in one arch (Bolton discrepancy). Deviation from the ideal tooth mass relationship will result in an adverse posterior occlusal relationship, abnormal overjet-overbite relationship, or crowding ^[14].

Most of the supernumerary teeth are asymptomatic but may cause different problems like failure of eruption of permanent teeth or their displacement, crowding of permanent teeth, development of midline diastema, loss of tooth vitality ^[2,15,16]. They can compromise the esthetics, complicate alveolar bone grafting, difficulty in placing implants and cause paraesthesia due to impingement on nerves. On anticipating these problems, surgical removal of the supernumerary tooth followed by orthodontic treatment is indicated ^[17,18].

CASE DETAIL:

A girl aged 21years reported with the chief complaint of irregular upper front teeth causing an unaesthetic appearance.

Medical, dental and family histories were not significant. There was no record of orofacial trauma. On extraoral examination the patient has a mesomorphic face, a straight profile and was pleasing to look at (Fig 1). Intraoral examination revealed two supplemental teeth erupted palatal to maxillary anterior teeth bilaterally. She had full set of permanent teeth with class I molar relationship (Fig 2). It was diagnosed as a case of class I malocclusion with two supplemental in between upper central and lateral incisors placed palatally.

The supplemental teeth were extracted and immediately fixed orthodontic treatment was started. The treatment continued for 2.1years. Following debonding the patient was given U/L retainers and instructed to follow up regularly.

DISCUSSION

Whenever supernumerary teeth are diagnosed single or multiple, a decision regarding the appropriate management should be made carefully. The clinical management of supernumerary teeth poses a great challenge to the clinicians. It may be difficult to formulate an ideal treatment plan for all cases with supernumerary teeth. Treatment depends on the type and position of supernumerary teeth and on its effect or potential effect on adjacent teeth. Treatment includes several controversies. The supernumerary teeth can either be erupted or un erupted ^[19]. Erupted supernumerary teeth should be preferentially extracted except where

they are needed to be retained . Unerupted teeth causing complications should be removed as compared to those not causing complications followed by regular follow up of supplemental teeth [20,21]. In our case as supernumerary teeth were causing displacement of maxillary central and lateral incisors leading to crowding in maxillary anterior region giving an unaesthetic look to the patient. Hence treatment plan was chosen as extraction of supernumerary teeth coupled with orthodontic correction to establish good esthetic as well as occlusion. In this case there was a very low risk of iatrogenic damage to adjacent permanent incisors roots as the root development of teeth was complete.

The cases where removal of supernumerary teeth is indicated is altered eruption or displacement of central incisor, associated pathology, compromising alveolar bone grafting in cleft lip palate cases or spontaneous eruption of supernumerary teeth.

The cases where monitoring of supernumerary teeth without its removal is indicated are when satisfactory eruption of related tooth has occurred, no associated pathology, no active orthodontic treatment indicated and

where its removal may affect vitality of the related teeth.

In the present case the supernumerary teeth were causing varying degrees of orthodontic problems ie rotation, crowding, displacement of permanent maxillary incisors giving unaesthetic look to the patient. Hence extraction of supplemental teeth followed by fixed orthodontic treatment was planned in our case.

CONCLUSION

Early diagnosis and treatment of patients with supernumerary teeth are important to prevent or minimize the complications. The clinician should have a thorough knowledge of signs and symptoms of supernumerary teeth. Early intervention is required after the diagnosis of supernumerary teeth which may be in the form of surgical or orthodontic treatment and combination in order to benefit the patient from esthetic and functional point of view. The above case represents a case where supernumerary teeth were causing crowding of maxillary anterior teeth . Extraction of supernumerary teeth was followed by orthodontic treatment which gave the patient an esthetic and pleasing look.

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FIGURES:



Fig 1a

Fig 1b

Fig 1c

Fig 1d

Figure 1 a-d : Pretreatment extraoral photographs .



Fig 2a



Fig 2b



Fig 2c



Fig 2d



Fig 2e

Figure 2a-e : Pretreatment intraoral photographs



Fig 3a



Fig 3b



Fig 3c



Fig 3d

Figure 3a-d : Posttreatment extraoral photographs.



Fig 4a



Fig 4b



Fig 4c



Fig 4d



Fig 4e

Figure 4a-e : Posttreatment intraoral photographs.