

Non-syndrome patient with bilateral supernumerary teeth: Case report and 9-year follow-up

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ABSTRACT

The presence of supernumerary teeth, also known as hyperdontia, is the condition of having teeth in addition to the regular number of teeth. The occurrence of multiple supernumerary teeth is often found in association with syndromes such as Gardner syndrome, Anderson-Fabry disease, Ellis-van Creveld syndrome, Ehlers-Danlos syndrome, incontinentia pigmenti, and Tricho-rhino-phalangeal syndrome. Only a few examples of nonsyndromic multiple supernumerary teeth have been reported in literature. In this report, we present the unusual case and 9-year follow up of a non-syndrome female patient with bilateral supernumerary teeth that occurred with an interval of several years. (Eur J Dent 2013;7:123-126)

Key words: Supernumerary teeth; non-syndrome; bilateral supernumerary teeth

INTRODUCTION

Supernumerary teeth may be defined as any teeth or tooth substance in excess of the usual configuration of 20 deciduous and 32 permanent teeth.¹ The etiology of supernumerary teeth is not completely understood. Various theories exist for the different types of supernumerary teeth.² One of the theories proposes that the supernumerary

tooth is produced because of a dichotomy of the tooth bud.³ Another theory-the hyperactivity theory-suggests that they are formed because of local, independent, conditioned hyperactivity of the dental lamina.⁴ Genetics may also influence the development of supernumerary teeth.⁵

Supernumerary teeth may be classified based on form (conical type, tuberculate type, supplemental type, odontome) or position (mesiodens, paramolar, distomolar, parapremolar).⁶ The clinical complications of supernumerary teeth include root anomaly, malocclusion, root resorption, displacement or rotation, failure of eruption or delayed eruption of adjacent tooth, cyst formation, and pulp necrosis with loss of vitality and esthetic disturbances.⁷

The most common supernumerary teeth, listed in order of frequency, are the maxillary midline su-

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pernumeraries (mesiodens), maxillary fourth molars, maxillary paramolars, mandibular premolars, maxillary lateral incisors, mandibular fourth molars, and maxillary premolars.⁸

The occurrence of multiple supernumerary teeth is often found in association with syndromes such as Gardner's syndrome, Fabry Anderson Syndrome, Ellis Van Creveld Syndrome, Ehlers Danlos Syndrome, Incontinentia Pigmenti and Tricho-Rhino-Phalangeal Syndrome and developmental disorders such as Cleft lip and palate and Chondroectodermal dysostosis.⁹ The presence of supernumerary teeth may be associated with familial tendency.¹⁰ Only a few examples of long-term follow-up of nonsyndromal bilateral supernumerary teeth have been reported in the literature.¹¹ The aim of this study is to present an unusual case of a non-syndrome female patient with bilateral supernumerary teeth which occurred with an interval of several years.

CASE REPORT

A 9-year-old female patient presented to our clinic complaining of pain in her primary teeth. Medical and family histories were unremarkable. An intraoral examination showed that the patient had a Class I canine relationship on the right and left side and bilateral posterior crossbite due to

bilateral constriction of the maxilla. Overjet and overbite were normal (Figure 1a). A panoramic survey of the teeth showed an unerupted supernumerary tooth that was located on the left side of the maxillary arch (Figure 1b). A standard maxillary occlusal radiograph was taken to determine the position of the unerupted tooth. The radiograph showed that the tooth was in a palatal position (Figure 1c). Following local anesthesia, a sulcular incision was performed and the supernumerary tooth was extracted via a palatal approach. The patient refused fixed orthodontic treatment and it was decided to observe the teeth and review the patient during the follow-up period. In the second follow-up period, after 3 years, radiographic examination revealed the presence of an unerupted supernumerary tooth in a palatal position on the right side of the maxillary arch (Figure 1d). The tooth was removed as described above under local anesthesia (Figure 1e). Presently, the patient is followed up through periodic examinations (Figure 1f).

DISCUSSION

Supernumerary teeth can be defined as the teeth present in addition to the normal set of teeth. Rajab and Hamdam¹² reported that the most frequent supernumerary teeth identified were me-

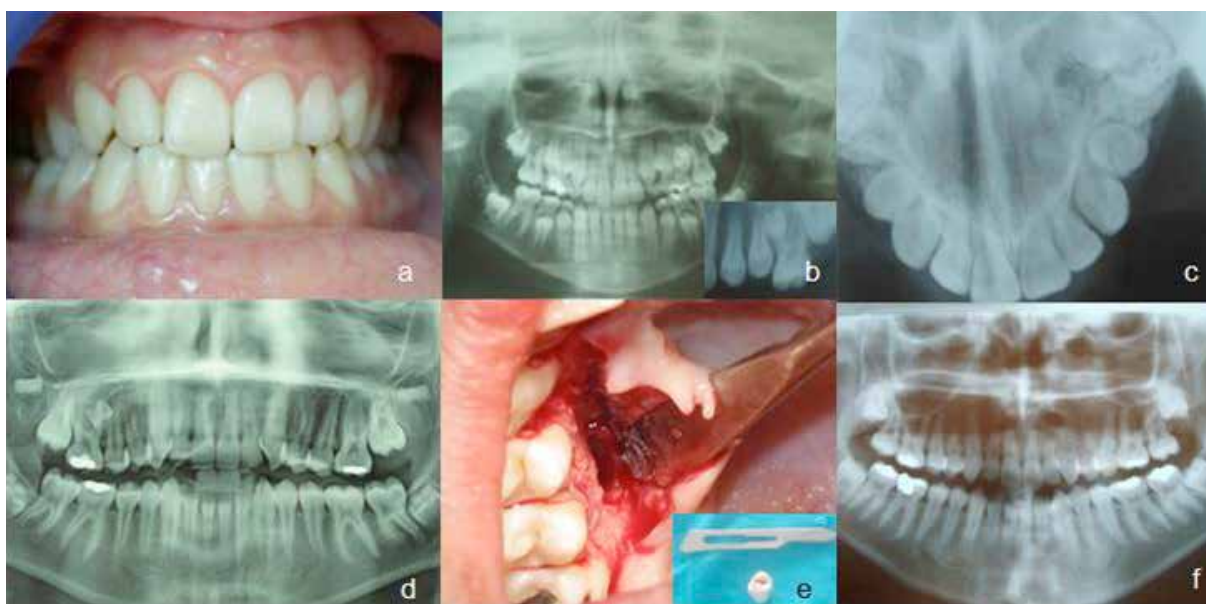


Figure 1. (a) Intraoral appearance of the patient. Overjet and overbite were normal, (b) Panoramic and periapical survey of the teeth showed unerupted supernumerary tooth which was located on the left side of the maxillary arch, (c) Occlusal radiograph which showed the supernumerary tooth was in palatal position, (d) Two years after the surgery radiographic examination revealed the presence of an unerupted supernumerary tooth on the right side of maxillary arch, (e) Supernumerary tooth were extracted via palatal approach, (f) Panoramic radiography which taken nine years after preliminary surgical application.

siodens, followed by premolars, and fourth molars or distal molars. However, authors such as Menardía et al¹³ reported that the supernumerary teeth of the molar group are the most prevalent type in the general population. In the present case, 2 supernumerary premolar teeth were located on the left and right side of the maxillary arch.

Supernumerary teeth are considered one of the most common dental anomalies, affecting the primary and early mixed dentition.¹² The etiology of supernumerary teeth remains unclear, but several theories have been suggested for their occurrence. The localized and independent hyperactivity of the dental lamina is the most accepted cause for the development of supernumerary teeth. Some have proposed that supernumerary teeth are formed as a result of local, independent, and conditioned hyperactivity of the dental lamina.¹⁴

The incidence of supernumerary teeth is reported to be between 0.1 and 3.6% of the general population.¹⁵ Rajab and Hamdan¹² reported in their study that males were more frequently affected than females (sex ratio, 2.2:1). Mitchell¹⁶ reported a 2:1 ratio in favor of males. Altug et al¹⁷ concluded that males are much more frequently affected than females with a 1.25:1 ratio. Supernumerary teeth are more likely to be present in patients whose relatives possessed supernumeraries, although the inheritance of these teeth does not follow a simple Mendelian pattern.¹⁸ Batra et al⁵ recently reported the presence of multiple supernumerary teeth occurring as a nonsyndromic trait in a girl, her elder brother, and her father.

In reviewing the literature, only a few cases of multiple supernumerary teeth were found without any associated syndromes or systemic disorders.^{5,8,10,19} In the present case, a non-syndrome female patient with bilateral supernumerary teeth was present. What is important is that this paper reports a case of nonsyndromic bilateral supernumerary teeth.

The importance of the use of a panoramic radiograph to evaluate a patient's condition is emphasized whenever a supernumerary tooth is detected, irrespective of whether the patient has any syndrome or not.¹⁹ We observed the first supernumerary tooth during routine panoramic radiogra-

phy by chance. The second supernumerary tooth was noticed during the follow-up period. This case also shows how important the follow-up period is.

Whenever supernumerary teeth are diagnosed, single or multiple, a decision regarding appropriate management should be carefully considered. Surgical removal of the teeth may cause damage to adjacent structures¹². Spontaneous eruption following supernumerary removal is suggested to be in the range of 54-75%.²⁰ DiBiase²¹ has suggested that most teeth experiencing delayed eruption will spontaneously erupt within 18 months of supernumerary removal alone, provided the delayed tooth is not excessively displaced. Timing of surgical removal of supernumerary teeth has also been contentious. Hogstrum and Andersson²² have suggested that 2 alternatives exist. The first option involves removal of the supernumerary as soon as it has been diagnosed. This could create dental phobia problems for a young child and has been reported to cause devitalization or deformation of adjacent teeth. Secondly, the supernumerary tooth could be retained until root development of the adjacent teeth is complete. The potential disadvantages associated with this deferred surgical plan include loss of eruptive force of adjacent teeth, loss of space and crowding of the affected arch, and possible midline shifts. Obviously, the position, size, and nature of the supernumerary tooth and the level of co-operation of the patient will influence the surgical difficulty; hence, each case should be individually assessed. In our opinion, it is important to initiate appropriate consultation and an interdisciplinary approach for treatment.

CONCLUSION

In this paper we report a case of nonsyndromic bilateral supernumerary teeth. Additionally; we emphasized that in cases of supernumerary teeth the follow-up period and interdisciplinary approach are very important for treatment.

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