

Unilateral maxillary functional supernumerary premolar: A case report

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Abstract

Supernumerary teeth occur in both the deciduous and the permanent dentition. Reported prevalence in permanent and primary dentition is between 1% and 3.5% and between 0.3% and 0.6%, respectively. Supernumerary teeth occur more frequently in the maxilla. The present case is extremely unusual in that a supernumerary premolar in the right maxilla distal to first molar is functionally erupted but caused impaction of second and third molars.

In this article, a case of unilateral maxillary functional supernumerary premolar has been presented. The etiology of the problem and proposed treatment plan is discussed. Supernumerary teeth occur in both the deciduous and the permanent dentition.¹ Reported prevalence in permanent and primary dentition is between 1% and 3.5% and between 0.3% and 0.6%, respectively.²

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Although supernumerary teeth may be bilateral, most occur unilaterally³ and can occur singly or a few at a time.¹ Supernumerary teeth occur more frequently in the maxilla, especially in the anterior segment (89-96%), than in the mandible.^{1,4} The most common site is the maxillary incisor region, followed by maxillary fourth molars and mandibular fourth molars (distomolars).⁵⁻⁸ Multiple supernumerary teeth can be seen in syndromic phenotypes, such as cleidocranial dysplasia and Gardner's syndrome, but can also be identified without other systemic conditions or associated syndromes.^{9,10} In anomalies of tooth number, the size of teeth is also involved. In patients with hypodontia and supernumerary teeth the crown size of the whole dentition is affected.¹¹ The majority of the supernumerary teeth are conical shaped, and remained unerupted.¹² The present case is extremely unusual in that a supernumerary premolar in the right maxilla distal to first molar

is functionally erupted but caused impaction of second and third molars.

Diagnosis:

In march, 2009, a 35-year-old woman was consulted for orthodontic diastema closure. During clinical examination we found a supernumerary premolar in the right maxilla, erupted and functional that had induced second and third molars impacted (Figs 1,2). Her oral hygiene was poor. She didn't have any important point in her medical history.



Fig 1. Panoramic radiograph



Fig 2. Occlusal photograph

Discussion

Familial occurrence of supernumerary and impacted teeth is a poorly appreciated issue. Review of the literature reveals that the genetic factor is important in the etiology of supernumerary teeth.^{13,14} Some authors propose an autosomal dominant mode of inheritance, whereas others believe a sex-linked mode with variable expression in some generations is more likely.¹⁵ However, there is argument as to the etiology of supernumerary teeth, with theories including hyperactivity of the dental lamina, proliferation of the remains of the dental lamina, atavism (reversion to ancestral human dentition), splitting of the tooth bud (dichotomy theory), and a combination of genetic and environmental factors.^{16,17} Radiographs are important in assessing the location and in typing supernumeraries. Periapical, occlusal, and panoramic radiographs are usually able to provide the required information. Conventional CT scans should be limited primarily to cases where conventional radiography poorly depicts the actual relationships between impacted and supernumerary teeth.¹⁸⁻²³

Complications associated with supernumeraries include dental impactions, delayed or ectopic eruption of adjacent regular teeth, dental crowding, disruption in tooth spacing (eg,

supernumerary tooth is in the midline of the maxilla), ectopic eruption (eg, into the floor of the nasal cavity), and the formation of follicular cysts.¹⁸

Delayed eruption or impaction of teeth is a problem frequently encountered in dental practice. Supernumerary teeth, heredity, endocrine abnormalities, and vitamin D deficiency are postulated as factors causing tooth impaction.¹ Several authors have suggested that in up to 75% of cases, impacted teeth erupt spontaneously over a period of 16 months to 3 years after removal of supernumerary teeth. When spontaneous eruption does not occur, surgical exposure of impacted teeth is indicated.¹⁵ Surgical removal of impacted teeth may damage adjacent structures, and therefore a decision needs to be made with regard to the surgical risks and the benefit of removal. Early diagnosis and treatment are crucial in minimizing esthetic and functional problems of the adjacent teeth.⁴

A case has been reported about bilateral functioning premolar form supernumerary teeth distal to the maxillary permanent first molars in India.¹¹ In the present case, the supernumerary premolar tooth was in the same location but unilateral and caused impaction of second and third molars.

Conclusion

Removal of functional supernumerary teeth in the aim of guided eruption of other teeth may be unwise because there would be some risks in their replacement such as ankylosis during traction.

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