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Eight supernumerary teeth in a non-syndromic patient: A case report

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Case Report

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ABSTRACT

Hyperdontia is the increase in the number of teeth. Hereditary patterns have been suggested and many cases are multifactorial. Syndromes such as Cleidocranial dysplasia and Down syndrome are associated with hyperdontia and non-syndromic cases are very rare. The aim of this study was to report multiple supernumerary teeth in a non-syndromic patient. A 25-year-old female patient without any systemic, metabolic, or mental disorders has been referred to the Department of oral medicine, Isfahan school of dentistry for an oral examination. In the panoramic radiography, 12 impacted teeth were accidentally found. Four of them were impacted third molars and the rest were supernumerary teeth. The presence of supernumerary teeth causes situations such as eruption latency of permanent teeth and root resorption of adjacent teeth. In these cases, a complete clinical and radiographic examination of the patient with a detailed medical and dental history should be performed for the appropriate surgical and orthodontic treatment plan.

Keywords: Tooth Impacted, Tooth Supernumerary, Syndrome

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Introduction

Hyperdontia is defined as an increase in the number of teeth and the extra teeth are called supernumerary. [1] Unilateral extra teeth are more common and it occurs 5 times more in permanent dentition. [2, 3] In 95% of cases the supernumerary teeth occur in the anterior region of the maxilla called Mesiodense. [4] It can also happen in upper molars called distomolar and lower premolars, canines, and lateral incisors. The supernumerary incisors are rare in the mandible. [5, 6] It is more common in men with a male/female ratio of 2:1. [7] Hyperdontia appears as supplemental or rudimentary. Despite Supplemental hyperdontia, rudimentary supernumerary teeth have an abnormal shape and are smaller in size. [8] Although It is suggested that the evolutionary throwback (atavism) causes hyperdontia, today`s accepted theory is the local and independent hyperactivity of dental lamina. [9]

Hyperdontia is associated with various syndromes such as Crouzon, Ehlers-Danlos, Sturge-weber, Gardner's, and Cleidocranial dysplasia.[10] Multiple extra teeth in non-syndromic individuals are very rare and need careful checkups for any syndrome symptoms.[8] The supernumerary teeth can have normal or inverted eruption or become impacted and lead to complications such as tooth movement, crowding, malocclusion, rotation, diastema, cystic formation, resorption of adjacent teeth, and latency in eruption.[7,11,12]

The aim of this study was to report a case of non-syndromic multiple hyperdontia. This case report describes the clinical and radiographic characteristics and the type of treatment suggested to the patient.

Case Report

The article with the ethical code of IR.MUI.RESEARCH.REC.1399.726 in the Ethics Committee of Isfahan University of Medical Sciences. The case was a 25-year-old woman who has referred to the oral medicine division of Isfahan school of dentistry with a chief complaint of decay evaluation and filling treatment. The clinical evaluation presented 2 semi-erupted extra premolars in the left quarter of the mandible. No asymmetry or swelling was identified. Radiographic evaluations showed 12 impacted teeth including 6 in the lower arch (2 third molars, 4 premolars) and 6 in the upper arch (2 third molars, 2 canines, 2 premolars) (Figure1). No pathologic changes were detected in panoramic radiography around the impacted teeth or other regions of both arches. The patient did not have



Figure1. Panoramic radiography of the patient with 6 impacted teeth in the lower arch (1 third molar and 2 supernumerary premolars in each quadrant) and 6 in the upper arch (1 third molar, 2 supernumerary canines, and 2 premolars in each quadrant)

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Any mental or skeletal disability and systemic evaluation were normal except for the fact that she was a hemophilia carrier. The familial history presented no abnormality however one of her two brothers was hemophilic. The radiographic evaluation of her mother and non-hemophilic brother was normal but the hemophilic brother also had one supernumerary impacted molar in the lower arch. (Figure2). In addition both brothers had 2 impacted third molars in each arch.



Figure2. Panoramic radiography of patients` healthy brother without any supernumerary teeth and 2 impacted third molars in each arch

Although the suggested treatment to the patient was the extraction of supernumerary teeth and additional orthodontic therapy, she did not accept the treatment.

Discussion

Despite various theories, the exact reason for hyperdontia is still unknown. It is assumed that hyperdontia is multifactorial and both genetic and other environmental factors are involved. Supernumerary and impacted teeth are uncommon and usually associated with conditions such as Down syndrome. [13]

Acikgoz et al. presented non-syndromic supernumerary teeth in 6 out of 9550 patients. all patients were male and 30 of 37 extra teeth were impacted. Similar to our case, the most prevalent supernumerary teeth were lower premolars. [12] Yague-Garcia et al. studied 16384 patients with supernumerary teeth, 8 were non-syndromic, 6 of whom were male and 2 were female, and despite our case, Alvira-Gonzalez et al. have suggested that supernumerary teeth are more prevalent in men. [14, 15]

Eshghpour et al. reported a case of a 29-year-old woman with 7 supernumerary teeth in the anterior region of the mandible which was similar to this study regarding the patient`s sex. [16]

Inchingolo et al. described a case of non-syndromic multiple supernumerary teeth which presented with localized pain and slight homolateral submandibular lymphadenopathy and familial history of multiple impacted teeth, however, in the present study there were no pathological signs in panoramic radiography or clinical examination and no familial abnormality was detected related to supernumerary teeth. [17]

Kumar et al. reported cases of non-syndromic supernumerary teeth with delayed eruption, unesthetic appearance, and displaced teeth chief complaints despite the current study in which the reported case presented with no clinical and radiological pathology. Similar to our study none of the cases in the study of Kumar et al. had a medical and familial history of supernumerary teeth. [18]

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The presence of the pericoronal follicle surrounding the crown of the impacted teeth is usually associated with cyst and tumor formation, such as ameloblastoma, keratocystic odontogenic tumors, and dentigerous cysts which may originate from odontogenic epithelial rests.[19] In addition, pathological conditions including delayed eruption or displacement of permanent teeth, root resorption of adjacent teeth, diastema, and root malformation of adjacent teeth may occur due to pressure and cystic formations in impacted supernumerary teeth area.[12] To prevent such complications in patients with supernumerary teeth, early intervention is suggested. Generally, in patients with hyperdontia getting a full medical and dental history alongside considering the patient`s developmental process, IQ and supernumerary teeth eruption time are necessary. Any soft or hard tissue anomaly must be registered. Required radiological examinations have to be taken and treatments have to be done according to the clinician`s opinion.

Authors' Contribution

Saberi Z and Abbasi F. accomplished collecting data, manuscript preparation and editing as well as performed the study supervision, Etemadi M. accomplished collecting data, manuscript preparation and editing, Salehi MR. discovered the patient and performed the patient examination.

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