Annals of the University of Oradea, Fascicle: Ecotoxicology, Animal Husbandry and Food Science and Technology, Vol. XVI/B 2017

Analele Universitatii din Oradea, Fascicula: Ecotoxicologie, Zootehnie si Tehnologii de Industrie Alimentara, Vol.XVI/B 2017

SUPERNUMERARY TEETH – SOME CLINICAL ASPECTS

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Abstract

Supernumerary teeth (or hyperdontia) are characterized by the presence of teeth in addition to the regular number of teeth. It is assumed that this is caused by disorders which occur during the period of tooth bud proliferation. There are several theories on this phenomenon: an atavitistic feature, additional teeth, the forming of an accessory bud of dental lamina. Hyperdontia appears more frequently in permanent dentition, in the frontal area of the dental arch and with a higher frequency in boys. Supernumerary teeth are classified by form, location, morphology and number. The occurrence of this anomaly is easily diagnosed, namely by some delay which occurs in the eruption times of permanent teeth, diastema, persistence of temporary teeth. Early diagnosis of supernumerary teeth is important, because by applying simple therapy measures the late consequences can be prevented. Among the mechanical complications this phenomenon can generate we recall: pathological radicular resorption, necrosis, neuralgia, etc. In most cases, erupted supernumerary teeth have to be extracted and the anomalies generated by their occurence are solved by orthodontic treatment

Key words: supernumerary, teeth, atavitistic

INTRODUCTION

Supernumerary teeth appear more frequently in permanent dentition, in a share of 2-3%, and among those who require orthodontic treatment the share is slightly higher i.e. 4-5% (21). In the case of Mongoloid population, Niswander et al.(12). And Davise et al.(5), report a share of 3%, the highest percentage relative to other racial groups. Koch et al.(10) finds a supernumerary teeth share of 1-3% in permanent dentition while Primosch finds a supernumerary teeth share of 0.3-0.6% in deciduous teeth. In the case of Caucasian population, the prevalence of supernumerary teeth ranges between 1% and 3% (4), with a prevalence ranging between 2.7% and 3.4% in the Japanese population (12) and Hong Kong population (5). Rajab et al(15), identified a higher rate in boys than girls, i.e. a 2.2:1 ration by gender(13). So LLY (16) found a greater male to female distribution of 5.5:1 in Japanese and 6.5:1 in Hong Kong children.

Supernumerary teeth appear more often in the maxilla (Rajab quote by Deepti,7) in the frontal area of the arch.(1,9,18) Supernumerary teeth are classified by shape, location, morphology and number. Primosch (quoted by

Amarlal D.,2013) classifies supernumerary teeth in eumorphic (or supplemental) and dysmorphic (or rudimentary, conical, tuberculate). They are rarely aligned in the dental arcade, and they may undergo a vestibular eruption, they can erupt into the oral cavity eruption or they can remain embedded in the alveolar bone.
Supernumerary teeth etiology is not elucidated. It is assumed that supernumerary teeth appear from an excessive activity of dental lamina due to disorders occurred during the period of tooth bud proliferation. There are several theories related to this phenomenon: an atavitistic feature, additional teeth, heredity (11) the forming of an accessory bud of dental lamina.
Early diagnosis of supernumerary teeth is important, because by applying simple therapy measures the late consequences thereof can be prevented.

MATERIAL AND METHOD

Case study 1
A 12-year-old patient came to the dentist's office with physiological disorders. Intra-oral examination shows a permanent dentition with the persistence of the temporary incisors in the upper dental arch. Family medical history and heredocollateral antecedents are of no importance. CBCT exam shows the presence of supernumerary teeth of conical atypical shape in the hard palate. The treatment consisted of extracting temporary teeth, followed by supernumerary teeth extraction. The doctor expected the spontaneous eruption of the permanent central incisors, and treatment continued afterwards with a fixed orthodontic dental appliance braces to align the teeth.

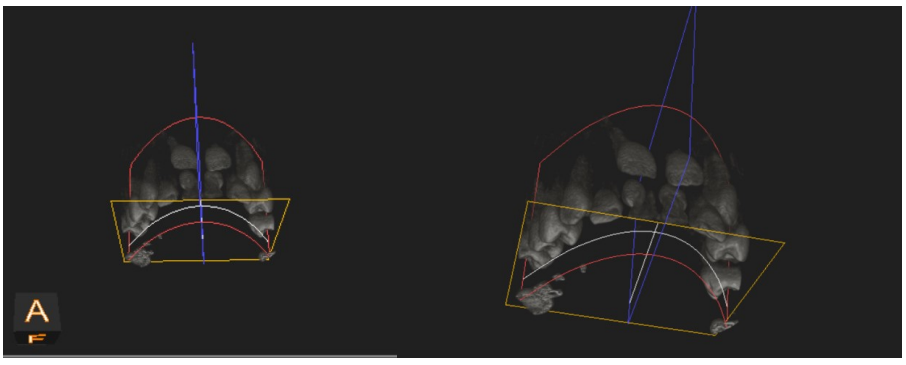

Fig. 1 image anteroposterior

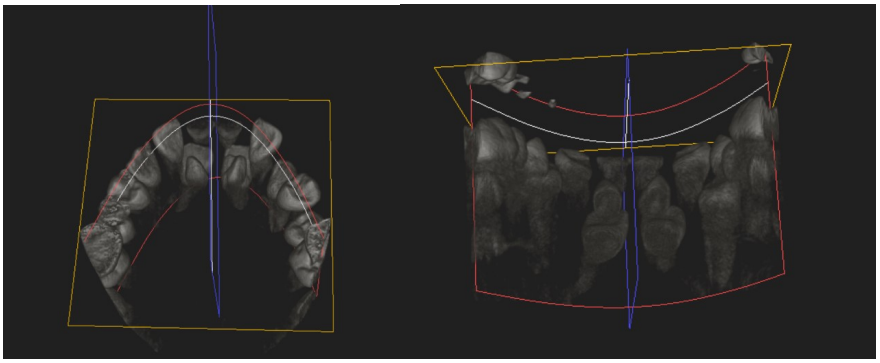

Fig. 2 Posteroanterior view

Case study 2

A 16-year-old patient presented to the dentist's office with physiological disorders. He declared no family medical history and heredocollateral antecedents. At the clinical examination he shows permanent dentition but a poor hygiene. A rotated supernumerary tooth may be seen on the median line, and the 21 erupts has a vestibular eruption. The radiologic examination confirms the supernumerary tooth diagnosis. The treatment consists in tooth extraction, and application of a fixed orthodontic dental appliance teeth braces to align the teeth.

Fig. 3 Intra-oral image

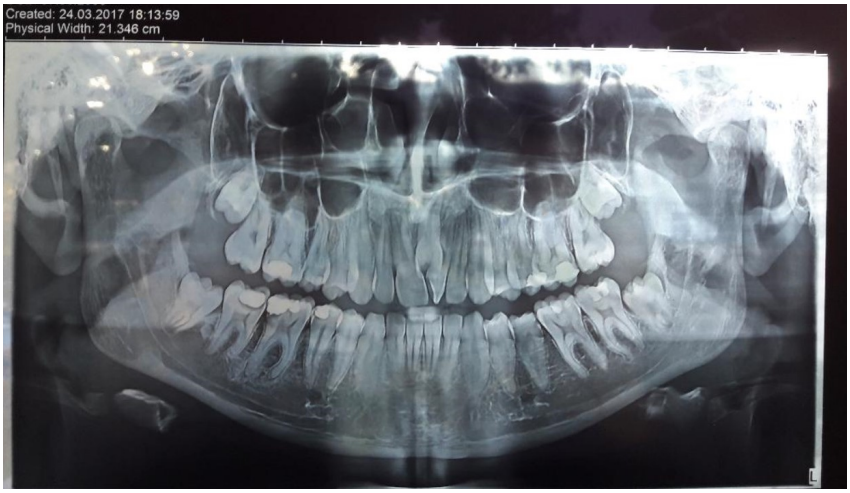

Fig 4 -OPG

Case study 3

A 11-year-old patient came to the dentist's office with physiological and masticatory disorders. Intra-oral examination revealed a mixed, delayed dentition. She declared no family medical history and heredocollateral antecedents. The dental exam shows the lack of 11 and 12, with the space left preserved. The mucosa is swollen in the frontal area at the level of absent incisors. Following the radiologic and CBCT exams supernumerary tooth diagnosis was made. The treatment consisted of the odontectomy of the supernumerary teeth. After a period of two (2) months there was a spontaneous eruption of the central incisor - 11. A fixed orthodontic dental appliance teeth braces was applied to align the teeth and preserve the space for 12.

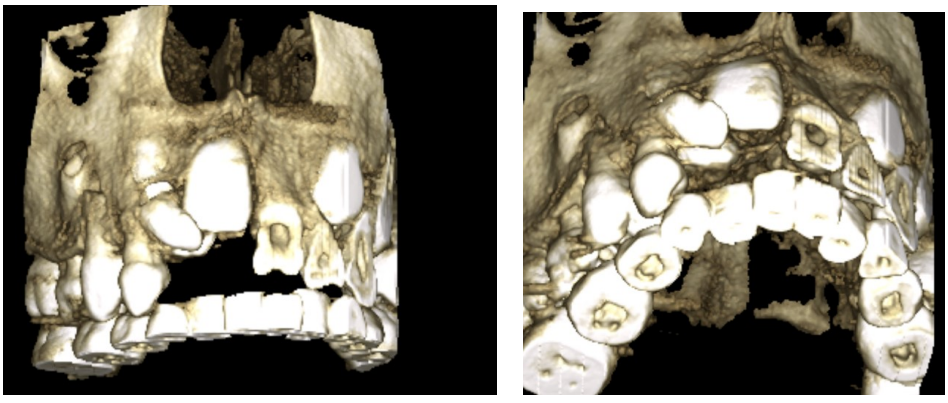

Fig. 5 CBCT exam - Posteroanterior view

Fig.6 - Spontaneous eruption of 11

DISCUSSION

Early diagnosis of supernumerary teeth is important, because by applying simple therapy measures the late consequences can be thus prevented. The complex clinical examination, the radiologic examination i.e. both the Orthopantomogram (OPG) and the Cone beam computed tomography (CBCT) are extremely important for establishing the diagnosis. Persistent primary teeth on dental arch, incisor eruption related disorders, and diastema are all clinical signs that should not be neglected and raise suspicion of supernumerary teeth. Diagnosis of this disorder is indicated to be made between the age of 8 and 13. In most cases supernumerary teeth have to be extracted(18,19), and the related anomalies generated by the presence therof are dealt with orthodontic treatment (8) i.e. 62% of the cases. The spontaneous eruption of incisors after extraction of supernumerary teeth is between 54% and 75% (6, 2). In hyperdontia cases presented above, the supernumerary teeth generated crowded teeth through extraction thereof the spontaneous eruption of the upper central incisor was stimulated.

CONCLUSIONS

Supernumerary teeth appear more frequently in permanent dentition and more frequently in boys. Etiopathogenesis is questionable. It is about a dental anomaly of number that should be diagnosed as early as possible by clinical and radiological exams. Extraction of supernumerary teeth, guiding eruption and alignment of incisors are stages that are dealt with by interdisciplinary surgical-orthodontic treatment.

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