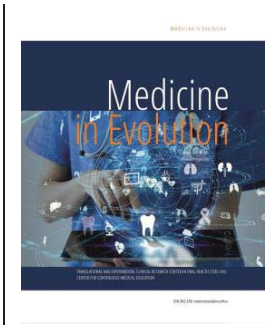
The management of non-syndromic supernumerary teeth - Case report



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Abstract

Supernumerary teeth are the most common dental anomalies found in permanent dentition. They are usually present in genetic syndromes, their presence in the absence of these syndromes being quite low. The case presented by us is of a male patient, aged 15 years that presented in order to solve a minor aesthetic problem. Following the paraclinical investigations (Orthopantomography and Cone Beam Computed Tomography) the presence of two supernumerary teeth was highlighted, a mesiodense and a tooth located between the roots of the teeth 12-13. The treatment was surgical extraction.

Keywords: supernumerary teeth, non-syndromic hyperdontia, surgical treatment

INTRODUCTION

Hyperdontia is the condition of having supernumerary teeth, or teeth that appear in addition to the regular number of teeth. Hyperdontia can be associated with a genetic syndrome or can be related to phylogenetic evolution, heredity, interest any tooth but is usually found in the upper jaw in the frontal area [1]. Supernumerary teeth can be single or multiple, erupted or non-erupted in one or both jaws. In most cases, the presence of supernumerary teeth is the consequence of a genetic syndrome (e.g cleidocranial dysplasia, Gardner syndrome, Rothmund-Thomson syndrome, orofacial-digital syndrome, cleft lip and palate) [2,3]. It is rare to find multiple supernumerary teeth with no associated diseases or syndromes. Hyperdontia can be accidentally discovered on a routine x-ray or there may be suspicion of a supernumerary tooth when giving aesthetic and functional changes [4].

Supernumerary teeth are classified according to morphology, position and location. In primary dentition, the morphology is usually normal or conical. In permanent dentition a greater variety of shapes are described. A classification of numerical dental abnormalities was published by Tomes who defined the following: supplemental tooth characterized by the same shape and function of adjacent teeth with no anatomical differences and supernumerary tooth characterized by an atypical anatomical shape; often these teeth are smaller than normal [5,6]. Bush classified supernumerary teeth as follows: Conic: tooth of a small volume and conic form, with root short and palatinised; Tubercolate: tooth with several cusps, with short root and hook shape; Infundibulform: tooth with a funnel form, with short and conic root [6]. Mesiodens is defined a tooth located between central upper incisors, paramolar a tooth placed in molar region and distomolar a tooth that lies distal to the third molar. The additional supernumerary refers to a duplication of teeth in the normal series and is found at the end of a series of teeth. The most common additional tooth is the permanent maxillary lateral incisor, but additional premolars and molars also appear [7-10].

Supernumerary tooth position can be normal, inverse, transverse or ectopic. They are observed in vestibular or palatal eruption [11-14].

Aim and objectives

The aim of this study was to present, in the non-genetic syndromes category, two supernumerary unerupted teeth revealed on the superior jaw.

CASE REPORT

The 15-year-old patient presents to the dental office in order to solve a small aesthetic problem related to tooth 13. At the orthopantomography (OPT) (Figure1) and Cone Beam Computed Tomography (CBCT) (Figure 2) examination, the presence in the anterior region of the maxillary bone of two unerupted supernumerary teeth is found, one located between 11 and 21 and the other between 12 and 13.

The anamnesis shows that the patient is not diagnosed with a genetic syndrome and does not have known cases of supernumerary teeth in the family. A thorough general examination and family history confirmed the absence of any kind of disease or syndrome associated with this case. The young patient was affected by numerical dental anomaly in the upper jaw, a mesiodens and a supernumerary tooth located between the roots of the teeth 12-13, both unerupted and with inverse position.

Figure 1. Orthopantomography with the highlighting of the supernumerary teeth

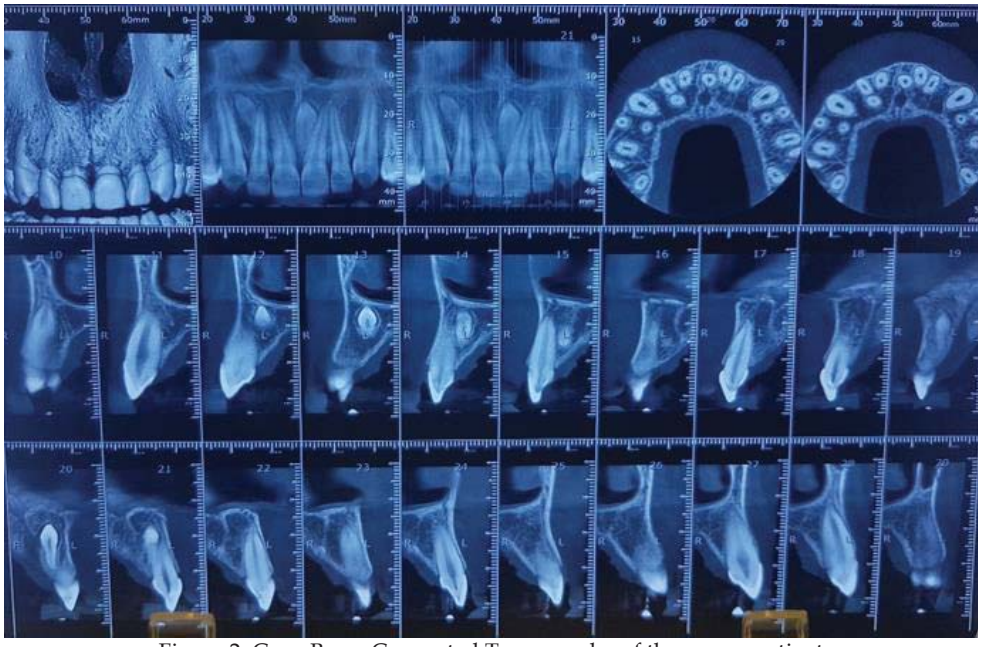

Figure 2. Cone Beam Computed Tomography of the young patient

All radiographic findings and the potential risk of root resorption of adjacent teeth were explained to the patient.

The treatment consisted in the extraction of the two supernumerary teeth by vestibular approach, after obtaining the informed consent of the patient and the legal owner.

The surgical procedure was performed with precise technical standards for the region, under local anesthesia. Extraction should be performed carefully to prevent damage to adjacent permanent teeth. Care should be taken during surgical treatment to avoid complications such as damage to nerves and blood vessels during tooth handling.

After the previous asepsis and antisepsis of the operating field, a trapezoidal flap was performed under local anesthesia, mucoperiostal flap detachment, bone trepanation with straight piece and surgical milling, exposure of supernumerary teeth, extraction, curettage, washings with saline, suture with 4.0. (Figure 3). The patient was cooperative, stable, did not require intravenous sedation

Figure 3. Extraction of supernumerary teeth

Both teeth of our clinical case have a conical crown. The roots of the supernumeraries are completely formed, the tips are not completely closed (Figure 4).

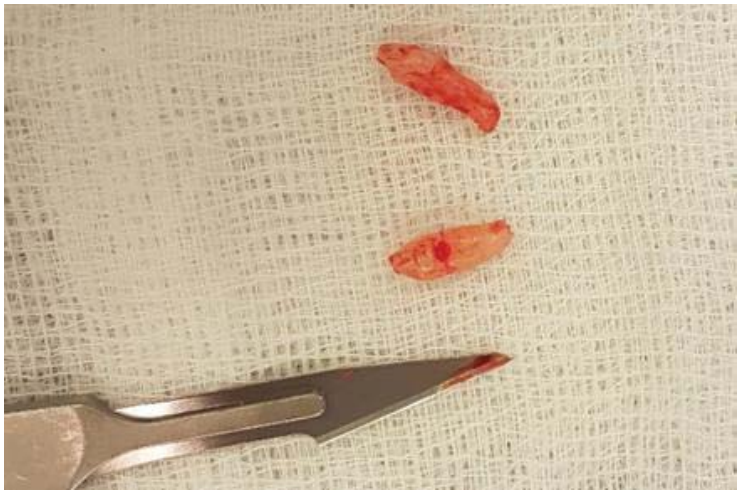

Figure 4. Appearance of extracted teeth

Indications for postoperative care were given immediately after surgery. Anti-inflammatory treatment (Ibuprofen 400mg 0-1-0 for 5 days) and analgesic Paracetamol 500 mg 0-0-1 as needed, were prescribed. Rigorous oral hygiene and suppression of sutures at 7 days. The postoperative evolution of the patient was very good.

Seven days after the surgical procedures were performed, the patient returned to the clinic for evaluation and suppression of sutures. According to the clinical evaluation, normal scarring and function was identified.

DISCUSSIONS

The prevalence of hyperdontia in various populations is reportedly between 0.1-3.8% with male to female ratio of 2:1 [15]. Cases like this are rare, primarily because it is a non-syndromic hyperdontia and also because an another supernumerary tooth besides the mesiodens is still present on the arch [16,17].

The early diagnosis of supernumerary teeth has a positive impact on the prognosis. They can be asymptomatic, and be casually diagnosed during a routine radiography [18].

Treatment depends on the type and position of the supernumerary tooth and its potential effect on adjacent teeth. The management of a supernumerary tooth should be part of a complex treatment plan and should not be considered in isolation. The usual treatment is

to extract the supernumerary tooth [19]. Removal of a supernumerary tooth that prevents permanent tooth eruption usually results in tooth eruption, provided adequate space is available in the arch [20,21]. When there is adequate space and the permanent tooth fails to erupt, surgical exposure and orthodontic traction are usually required [22]. Clinicians must be alert as sometimes supernumerary teeth are fused with the adjacent tooth structure at crown or root level, which may make the extraction difficult [23,24].

CONCLUSIONS

Early detection of these cases of supernumerary teeth is important given the complications they can generate: aesthetics or resorption of the roots of permanent teeth. The treatment of choice is tooth extraction, their approach depending on their position. These cases, starting with the OPT radiograph that signals their presence on the arch as well as the CBCT that gives information about the exact position of these teeth on the arch and directs the surgical approach technique.

It is a great challenge for clinicians to decide on the timely management of supernumerary teeth, to prevent the complications associated with it.

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