MULTIDISCIPLINARY MANAGEMENT OF SUPERNUMERARY TEETH CAUSING ROOT RESORPTION OF CENTRAL INCISOR

ABSTRACT
Supernumerary teeth are described as the teeth formed in excess of the normal dental formula. Although etiology is actually unknown, some theories have been projected about the development of supernumerary teeth. Nowadays, the theory that accepts the hyperactivity of the dental lamina as the origin is supported. Supernumerary teeth interfere with the eruption and alignment of the maxillary incisors frequently. They can delay or prevent eruption of central incisors, cause ectopic eruption, displacement or rotation of a central incisor. Less common complications involving the permanent incisors include dilaceration of the developing roots, root resorption and loss of tooth vitality. In this case study, the multidisciplinary treatment of a patient having supernumerary tooth which causes root resorption in the upper central tooth is presented.

Key words: Root Resorption, Supernumerary Teeth

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INTRODUCTION

Supernumerary teeth are defined as the excess number of teeth compared to normal case. Although its etiology is not well known, there are some theories that have been asserted about the formation of these teeth. The most supported theory is the one which claims that the teeth are formed as a result of the hyperactivity taking place in dental lamina during the development with the jawbone. Supernumerary teeth can be seen in either deciduous dentition or permanent dentition, they can be unilateral or bilateral and, single or multiple. Supernumerary teeth can be seen twice in males compared to females. Researchers have reported that supernumerary teeth are seen most commonly in conical shape. Supernumerary teeth are usually important in terms of delays of eruption of permanent teeth and of creating orthodontic problems. The supernumerary teeth seen in premaxilla region may cause one or two upper incisors to remain embedded, or give rise to disorders and rotations in these teeth, to diastema in the midline, delays in the eruption in the permanent teeth, to dentigerous or primordial cyst formation, root resorptions in the adjacent teeth. In this case study, the multidisciplinary treatment of a patient having supernumerary tooth which causes root resorption in the upper central tooth is presented.

CASE REPORT

A 22-year-old male patient was admitted to our clinic with the complaint of gingival recession, stating that he had discomfort in one of his teeth erupted from the upper right palatal region and in his upper right tooth when he laughs. The patient was found to have no systemic nor familial disorder; his general health was normal and there was no one with supernumerary tooth in his familial history. The intraoral examination revealed that there was a supernumerary tooth in the upper jaw at the right side, gingival recession and mobility in the Miller II level at the adjacent upper right incisor in this region (Figure 1). Periapical radiography results demonstrated that there was a root resorption in the upper right incisor.

Treatment Planning

Upper right incisor with mobility and root resorption was extracted; the supernumerary tooth was decided to be included into the arc with fixed orthodontic treatment, thus, “Informed Consent Report” was taken from the patient. Following the tooth extraction under the local anesthesia and the wound healing, orthodontic treatment was carried out. Bio-progressive system brackets with 0.018×0.022“-slots were bonded and 0.014” Nickel Titanium arch wire was inserted (Figure 2). 0.016×0.022” Nickel Titanium arch wires were applied following the leveling. Desired torque bends were ensured with 0.017×0.022” stainless steel arch wires, and the supernumerary tooth was included into the arch by sliding it into the extraction gap with a short orthodontic treatment lasting approximately six months. An apically positioned partial-thickness flap was used to add keratinized attached gingiva in the right maxillary central incisor area before the prosthetic treatment. A flap was raised by sharp dissection using a number 15 scalpel blade along the right maxillary central incisor area.

- Vertical releasing incisions were carried high enough into the vestibule to permit apical positioning of the flaps.
- The flap was wide enough to maintain adequate vascularity.
- The flap was apically positioned and stabilized with 4-0 silk sutures.

The patient was post-operatively administered amoxicillin plus clavulanic acid three times a day for 3 days. The sutures were removed 10 days after surgery, and the patient was recalled for a check-up 1 and 2 months after surgery for post-operative care. At the 1-month check-up, the apically displaced keratinized mucosa appeared firm and stabilized over the underlying tissue. Prosthetic treatment stage was begun after orthodontic and periodontal treatment stages. Fixed prosthetic restoration was made with metal-backed porcelain to the supernumerary tooth in a fashion that it would fit with the dimension of the left central tooth (Figure 3).

RESULT

Maxillary anterior region and particularly central incisors are the most important elements of the oral cavity in terms of esthetics. After the lost central tooth, satisfying results were obtained by inserting the supernumerary tooth within the arch and by reshaping the tooth with conical shape by using esthetic materials (Figure 3). The periodical controls of the patient have been continuing.

DISCUSSION

Supernumerary teeth in dentition originate from the proliferation of the dental lamina continuously in the deciduous teeth and permanent teeth series in order to constitute a third tooth germ. The revealing tooth may have either a normal shape or may be shapeless and miniature. Supernumerary teeth are usually located in the anterior maxillary and mandibular premolar regions during the dentition period. Bodin et al. have reported that supernumerary teeth are located most commonly between
Supernumerary teeth can be an ideal treatment option all time. There are studies also expressing that supernumerary teeth can be positioned on the dental arch and that they can function like normal teeth. As in our case, while deciding to include the supernumerary tooth that causes root resorption in the adjacent permanent tooth into the arch, the shapes of the teeth should be assessed by examining primarily the root and crown structures of the teeth. To utilize the supernumerary tooth with healthy root development in functional and esthetic dentition with an orthodontic, surgical and prosthetic multidisciplinary treatment is a desired conclusion.

REFERENCES