

Case Report

Management of Impacted Supernumerary Tooth- A Case Report and Brief Overview

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Abstract: A supernumerary tooth is an extra tooth in any region of dental arch with predilection for premaxilla and are associated with various developmental disorders and syndromes. Here we present a case of supernumerary tooth present in left maxilla region and its surgical procedure for its removal along with brief overview on its associated complications and their management.

Keywords: supernumerary tooth, hyperdontia, succedaneous teeth

INTRODUCTION

Supernumerary teeth (also called hyperdontia), are extra teeth or tooth-like structures that might be erupted or unerupted, single or multiple, unilateral or bilateral, and in one or both jaws [1]. Supernumerary teeth are found relatively often in patients with developmental disorders e.g cleft lip and palate, cleidocranial dysostosis, ectodermal dysplasia or syndromes e.g Gardner syndrome, Down and Crouzons syndrome. Exact etiological factor is still unknown and is under research, but genetic predisposition has been proposed in literature [1].

The prevalence rates of supernumerary teeth reported in the literature vary between 0.1 and 3.6%. Supernumerary teeth can be found anywhere within the jaw, but they are most frequently seen in the anterior maxillary region (89–96%). The canine, premolar and molar regions represent less than 5% each. Supernumerary teeth may erupt regularly in the oral cavity or be retained in the jaw. Eruption frequency is reported to vary between 15 and 34% in the permanent dentition [1].

CASE REPORT

A 24 year old male patient reported in our department with the chief complaint of pain and sensitivity in left upper posterior teeth region. On

clinical examination small cusp is visible on the palatal aspect of 25 and 26. No caries teeth is detected and no teeth is tender on percussion and full complement of teeth are present. There is no clinical evidence of bulge or swelling on the palatal or buccal mucosa (Figure 1).



Fig-1: Intraoral view

On radiographic examination- IOPA in relation to 25 and 26 shows impacted supplemental supernumerary tooth in between 25 and 26. Impacted

tooth is causing pressure resorption in mesial aspect of 26 (Figure-2).

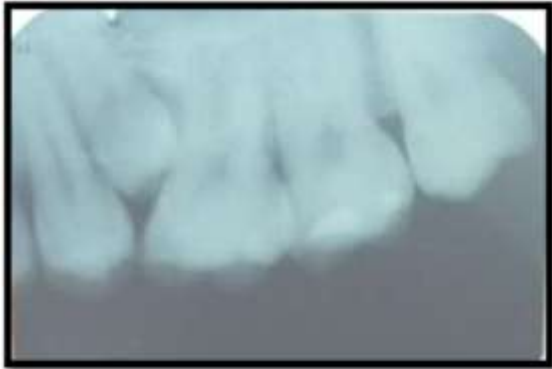


Fig-2: Intraoral panoramic radiograph showing supernumerary tooth present between left side maxillary premolar and molar

OPG-shows impacted supplemental supernumerary tooth present between 25 and 26 which is causing resorption on mesial aspect of 26 and divergent roots of 25 (Figure-3).



Fig-3: Orthopantomogram showing supernumerary tooth between 25 and 26

Surgical procedure- Local anesthesia was administered using 2ml of 2% lignocaine with 1:100,000 dilution of adrenaline through left greater palatine nerve block and incisive nerve block. Crevicular incision was placed from 22 to 27 and full thickness mucoperiosteal flap was reflected to expose the bone (Figure 4). Cusp of impacted supernumerary tooth was exposed. Guttering of bone was done to expose the crown after careful sectioning using CEJ split (Figure 5), impacted tooth was removed (Figure 7). Curretage was done to remove the remanant reduced enamel epithelium. Irrigation was done using betadine and normal saline. Resorption on the mesial side of 26 was identified and restored using MTA(Figure 6). Closure of the surgical site was done using 3-0 mersilk (Figure 8).



Fig-4: Full thickness mucoperiosteal flap raised to expose the tooth



Fig-5: Bone guttering and removal of tooth



Fig-6: Restoration done of cervical resorption in relation to 26 with MTA

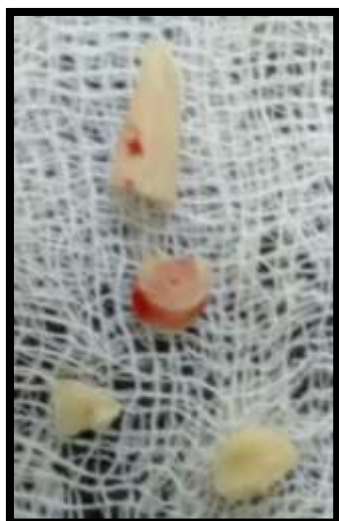


Fig-7: Extracted tooth



Fig-8: Closure done with 3.0 silk

DISCUSSION

A supernumerary tooth is defined as one that is additional to the normal series and can be found in almost any region of the dental arch [2]. The etiology of supernumerary teeth is not completely understood, various theories exist for the different types of supernumerary. One theory suggests that the supernumerary tooth is created as a result of a dichotomy of the tooth bud. Another theory which is well supported in the literature, is the hyperactivity theory, which suggests that supernumeraries are formed as a result of local, independent, conditioned hyperactivity of the dental lamina. Heredity may also play a role in the occurrence of this anomaly, as supernumeraries are more common in the relatives of affected children than in the general population. However, the anomaly does not follow a simple Mendelian pattern [2]. Occurrence of supernumerary teeth may be single or multiple, unilateral or bilateral, erupted or impacted, and in one or both jaws. Multiple supernumerary teeth are rare in individuals with no other associated diseases or syndromes.

In a survey of 2,000 school children, Brook found that supernumerary teeth were present in 0.8% of primary dentitions and in 2.1% of permanent dentitions [3]. Supernumerary teeth may be classified according to their morphology and location. The morphological classification includes conical, tuberculate, supplemental, and odontoma type and the orientation was categorized as normal, inverted, transverse, or unclassified. The classification based on location is in accordance with the work of Bolk which groups the supernumerary teeth as mesiodens (between the 2 central incisors), paramolars (rudimentary teeth situated lateral to the molar row), and distomolars (distal to the third molar). Supernumerary teeth may be single or multiple and located in any region of the dental arch, although they usually occur in the premaxilla. The mesiodens is the most commonly occurring supernumerary tooth type in this region. The next most common site is the mandibular premolar area where the supernumerary teeth are of the supplemental type. Supernumerary molars are more frequently found in the maxilla than the mandible, while supernumerary teeth in the canine region are rare, but when they do occur, their form is usually supplemental. Multiple supernumerary teeth are rare and most cases are syndrome related, while the prevalence rates for non-syndromic multiple supernumerary teeth is less than 1% [4].

Complications Associated with Supernumerary Teeth

- ❖ **Eruption failure**- The presence of a supernumerary tooth is the most common cause for the failure of eruption of permanent teeth. It may also cause retention of the primary teeth.
- ❖ **Displacement**- The presence of a supernumerary tooth may cause displacement of a permanent tooth. The degree of displacement may vary from a mild rotation to complete displacement.
- ❖ **Crowding** - Erupted supplemental teeth most often cause crowding. The problem may be resolved by extracting the most displaced or deformed tooth.
- ❖ **Pathology** - Dentigerous cyst formation is another problem that may be associated with supernumerary teeth. Primosch reported an enlarged follicular sac in 30% of cases, but histological evidence of cyst formation was found in only 4 to 9% of cases [5]. Resorption of roots adjacent to a supernumerary may occur but it is extremely rare.
- ❖ **Alveolar Bone Grafting**- Supernumerary teeth may compromise secondary alveolar bone grafting in patients with cleft lip and palate. Erupted supernumeraries are usually removed and the socket site allowed healing prior to bone grafting. Supernumeraries should not be extracted without consultation with the cleft team. Cooperation between the general dental practitioner and the cleft team is essential. Unerupted supernumeraries in the

cleft site are generally removed at the time of bone grafting.

- ❖ **Implant Site Preparation** - The presence of an unerupted supernumerary in a potential implant site may compromise implant placement. The supernumerary may require removal prior to implant placement. If removed at the time of implant placement, bone grafting may be required.
- ❖ **Asymptomatic** - Occasionally, supernumerary teeth are not associated with any adverse effects and may be detected as a chance finding during radiographic examination.

Management of Supernumeraries

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

Indications for Supernumerary Removal

Removal of the supernumerary tooth is recommended where:

- Permanent teeth eruption has been delayed or inhibited;
- Altered eruption or displacement of permanent teeth is evident;
- There is associated pathology.
- Active orthodontic alignment of permanent teeth in close proximity to the supernumerary is envisaged;
- Its presence would compromise secondary alveolar bone grafting in cleft lip and palate patients;
- The tooth is present in bone designated for implant placement;
- Spontaneous eruption of the supernumerary has occurred

Indications for Monitoring Without Supernumerary Removal

Extraction is not always the treatment of choice for supernumerary teeth. They may be monitored without removal where:

- Satisfactory eruption of related teeth has occurred;
- No active orthodontic treatment is envisaged;
- There is no associated pathology;
- Removal would prejudice the vitality of the related teeth

The most frequent supernumerary teeth identified are mesiodentes, followed by premolars and fourth molars or distal molars [6].

CONCLUSION

Supernumerary tooth are seen commonly seen in our daily practice and as maxillofacial surgeons, we should have a thorough knowledge of it's clinical features, investigations to be advised and associated complications which can occur intra operatively or post

operatively and their management including their eruption pattern, to provide ideal rehabilitation and patient satisfaction.

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