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Late developmental supernumerary teeth: A case report

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Abstract

Supernumerary teeth are surplus teeth beyond the normal number of teeth which can appear in primary or permanent dentition. Such teeth can cause malocclusion and several other complications. Some may even develop later post eruption of permanent dentition termed as late developmental supernumerary teeth. This article reports a case and elaborates about the effective management of two parapremolars one which is fully developed and the other being a late developmental supernumerary tooth.

Keywords: Supernumerary tooth, malocclusion, case report

Introduction

Any tooth or odontogenic structure that develops from a tooth germ more than the normal number referred to as a supernumerary tooth ^[1]. They are seen more often in the permanent dentition with an estimated 1% to 3% of people affected. In the deciduous dentition, their prevalence is around 0.8% of the population. Supernumerary teeth can be found in varying forms; as one or more, on one side or both sides, erupted or impacted, and in either or both the jaws. Multiple supernumerary teeth are rare and they are typically linked to cleft lip and palate, Cleidocranial Dysplasia, Gardner's Syndrome ^[2, 3]. The late developmental supernumerary teeth (LDST) develop later following the eruption of the permanent dentition. Generally, LDST are diagnosed as accidental finding during routine radiographic examination ^[4]. Various complications may arise with the presence of supernumerary teeth, including crowding, delayed eruption, impaction, diastema formation, cysts related to impacted supernumerary teeth, abnormal eruptions, root resorption of neighboring teeth, teeth displacement, and others which often necessitate both surgical and orthodontic interventions. Early detection and intervention results in a favorable prognosis and reduce the likelihood of complications ^[5]. This case reports about an unerupted, unilateral mandibular late developmental supernumerary tooth and a unilateral unerupted maxillary parapremolar tooth in a child patient.

Case Report

A 13 year old boy presented at the Department of Pedodontics and Preventive Dentistry with chief complaint of malaligned teeth. No relevant medical history was noted and no significance extra oral finding was there. On intraoral examination, bilateral Angle's class I Malocclusion (Figure 1) with crowding in the mandibular anterior teeth was detected (Figure 2). The patient had a retained root stump of 55 present and 15 was not erupted yet (Figure 3). Orthopantomogram (OPG) (Figure 4) showed impacted 15 and a supernumerary tooth in right side upper premolar region. Another supernumerary tooth was also revealed in the OPG in the lower right premolar area, with only crown being formed (Nolla's stage 6). Maxillary standard occlusal radiograph (Figure 5) confirmed presence of a fully developed supernumerary tooth in the right side of upper jaw which is placed buccally in relation with the impacted 15. Shape of the supernumerary teeth was conical with completed root development. The patient underwent surgical removal (Figure 6, Figure 7, Figure 8) of the impacted supernumerary teeth (Figure 9) under local anesthesia of 2% Lignocaine hydrochloride with 1:100000 adrenaline (Xycaine).

The patient was recalled after 1 week for suture removal. The postoperative healing was good and uneventful (Figure 10). The patient has been kept under observation. Another supernumerary tooth which was found in the lower right posterior teeth region is asymptomatic and not forming any complications right now, so the patient is now being monitored for that on regular interval.

Discussion

Supernumerary teeth (ST) have been categorized mostly based on their anatomy and position. Based on shape, they are classified as conical, supplemental, tuberculate and odontome, whereas they are classified based on their position as mesiodens, paramolar and distomolar [6]. Scheiner and Sampson (1997) [7]. Classified ST as mesiodens, paramolar, distomolar and parapremolars. Mesiodens are known to be located between the two central incisors and are mostly conical in shape [8]. Distomolars are located distally to the third molars, and paramolars are located palatally or buccally next to a molar. Parapremolars are found adjacent to a premolar [7]. Approximately 90% of ST are present in the maxilla. Patients are typically impacted by one supernumerary (76-86%), then by two supernumeraries (12-23%), and infrequently by more than two supernumeraries (<1%) [9].

Supernumerary premolars account for 8-9.1% of all supernumerary teeth, with an incidence of 0.09-0.64% in the general population. Supernumerary premolars occur in the lower arch far more frequently than in the upper arch, in contrast to other forms of supernumerary teeth [10]. In clinical practice, LDST are relatively uncommon. Previous research has suggested that LDST can affect both sexes, manifest as one or many, be unilateral or bilateral, and occur in different parts of the maxilla or mandible. Findings on LDST were variable due to sample size limitations [11]. Supernumerary teeth are typically discovered accidentally during radiographic evaluation. LDST, are typically discovered during orthodontic therapy as they form between the ages of 12 and 13 [12].

The developmental stage or the chronological age serve as the basis for the LDST diagnostic criteria. It is believed that LDST develop at least three stages later than permanent teeth. There is a minimum 3-year difference between the dental stage age (DA) and the chronological age (CA) of LDST [13]. Since the majority of LDST are impacted, asymptomatic, and formed 6.48 to 10.45 years after the corresponding permanent teeth, follow-up radiographs should be taken for diagnosis

and continuous observation [14]. There are two options for treating of LDST, follow-up or extraction based on their effects and location [12]. When they cause pathological conditions or impede appropriate treatment, for example, by delaying the eruption of adjacent teeth or impeding closing spaces while receiving orthodontic treatment then surgical removal should be taken into consideration [14, 15].

In 1994, Hegde SV and Munshi AK [16]. Reported a case of late developmental supernumerary teeth in a 13 year old male patient who had presence of supernumerary teeth in left and right premolar region of mandible. In 1997, Cochrane, Clark and Hunt [17] reported two instances of the formation of extra teeth in late stage in a 11 year old boy who had bilaterally placed supernumerary teeth in molar region of mandible and another case was presented in a 9 year old female patient who had a supernumerary teeth present in lower left premolar region. In 2016, Paduano *et al* [4] reported 4 cases of late developmental supernumerary teeth at 12 year, 11 year, 25 year and in a 14 year old patient respectively. Majority of the LDST found in previous studies are normal in orientation and bilaterally positioned [13] but in the present case unilateral mandibular LDST is present.

It is necessary to decide whether to monitor or extract supernumerary teeth when they are found. If untreated, they may cause the occlusion to be disturbed. If the teeth remain impacted, they may not only interfere with the development of the occlusal space, but they may also cause cystic lesions or the resorption of adjacent roots. An evaluation of the surgical risks and the benefits of extracting impacted teeth must be taken into account because surgery carries the possibility of damaging nearby vital structures [18]. Only 2% of unerupted supernumeraries in the premolar region demonstrated any pathological change, according to Bodin *et al.* (1978) [19]. They recommended leaving the teeth in place rather than running the risk of surgical injury.

The present article reports a case of a 13 year old male patient having a fully developed parapremolar supernumerary teeth in right maxillary premolar region causing malocclusion which was surgically extracted and also an asymptomatic late developmental parapremolar in mandibular right premolar region which was kept under monitoring. Clinical features, diagnosis and process of treatment have been elaborated in this case report.



Fig 1: Preoperative intraoral pictures showing bilateral Angle's class I malocclusion.



Fig 2: Mandibular anterior crowding.



Fig 4: OPG reveals Impacted 15 and a supernumerary tooth adjacent to it. A late developmental supernumerary tooth seen in the lower right premolar region.

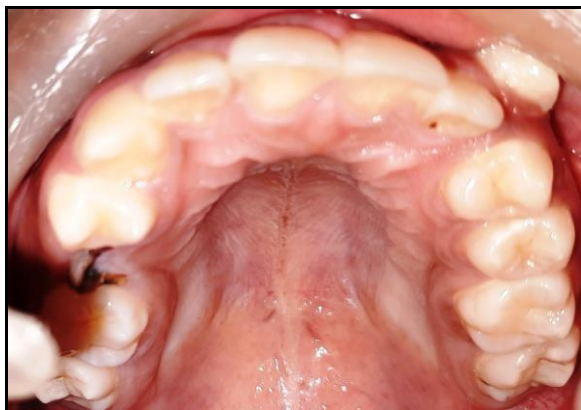


Fig 3: Retained root stump of 55.



Fig 5: Maxillary standard occlusal radiograph revealing presence of a supernumerary tooth in the right side of upper jaw which is buccally placed in relation with the impacted 15.

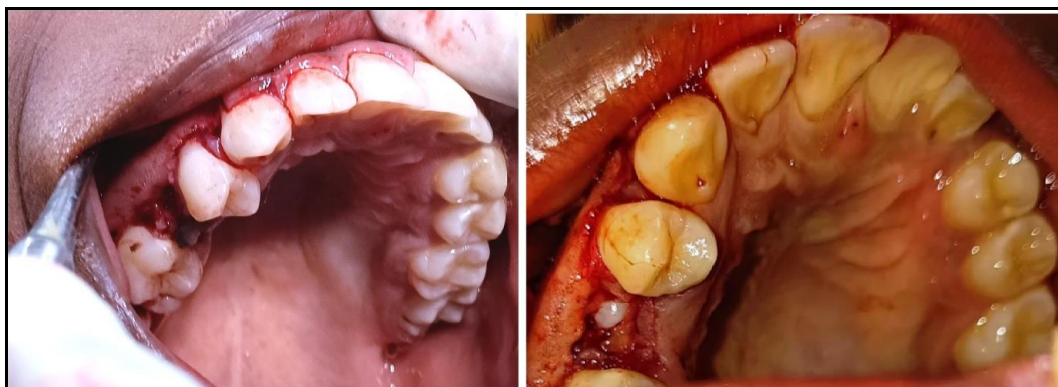


Fig 6: Mucoperiosteal flap was raised from 13 to 16. Retained root stump of 55 was extracted. Exposure of supernumerary tooth was done.



Fig 7: Supernumerary tooth was luxated using an elevator and extracted.

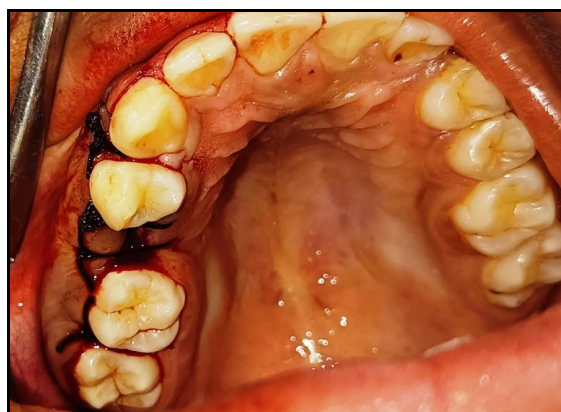


Fig 8: Flap apposition was done and sutures were placed.



Fig 9: Extracted supernumerary tooth and retained root stump of 55.



Fig 10: Post-operative pictures suggestive of good healing.

Conclusion

The appropriate management of late developmental supernumerary tooth relies on risk/benefit ratio between surgical extraction and observation with the means of regular radiographic and clinical follow ups, the nature and location of the tooth as well as the potential damage in the surrounding tissues. Only advanced imaging methods may be able to aid the clinician in some circumstances to clearly assess the problem. Screening for the late developmental supernumerary teeth is not a routine practise, therefore if there is requirement of any orthodontic treatment, the likelihood of their disruption of occlusal development or hindrance in space closure, should always be taken into account.

Conflict of Interest

Not available

Financial Support

Not available

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