

# Non-Syndromal Multiple Buried Supernumerary Teeth

## Report of Two Cases from the English-speaking Caribbean and a Review of the Literature

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### ABSTRACT

*Multiple supernumerary teeth affecting all four quadrants of the jaw are a rare dental anomaly which has become a chance finding on routine dental panoramic tomography (DPT). In this paper, two cases from the English-speaking Caribbean are reported. The role of radiography in the diagnosis and management of this rare developmental dental anomaly is emphasized. The paper stresses the importance of ruling out associated syndromes such as Gardner's Syndrome, cleidocranial dysostosis and cleft lip and palates, as multiple supernumerary teeth are usually related to such conditions. There is a review of the literature as it relates to supernumerary teeth.*

### INTRODUCTION

Teeth or tooth substance in excess of the usual configuration of 20 deciduous and 32 permanent teeth would be designated supernumerary teeth. Supernumerary teeth may occur singly, multiply, unilaterally or bilaterally and in one or both jaws. Rarely it can occur in all the four quadrants of the jawbone as in the index cases. The classification of supernumerary teeth is shown in Table 1.

Table 1: Classification of supernumerary

Classification based on form	Classification based on position
Conical supernumerary	Mesiodens
Tuberculate type	Paramolar
Supplemental type	Distomolar
Odontome	Parapremolar

Cases involving one or two supernumerary teeth most commonly involve the anterior maxilla followed by the mandibular premolar region (1, 2). The most commonly affected site of multiple supernumeraries (> 5) is the mandibular premolar region (3). Various studies have been conducted regarding the prevalence and significance of supernumerary teeth. However, most studies and publications are deficient in that they lack definite management of multiple (buried) supernumerary teeth when such are not related to a syndrome or symptom.

It is the intention of this paper to stress the importance of non-treatment and appropriate radiological follow-up for asymptomatic, non-syndromic multiple buried supernumerary teeth and to review the literature on this topic.

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### Case Report 1 - Jamaica

A 13-year-old Jamaican female of African descent presented to the Cornwall Dental Centre in Jamaica with a complaint from the mother of over-retained deciduous teeth and a palatally erupted upper left premolar tooth. The clinical examination confirmed such complaints. The dental panoramic tomogram (DPT) which was required as a compulsory investigation prior to treatment and advice revealed supernumeraries in the location designated in Figure 1.

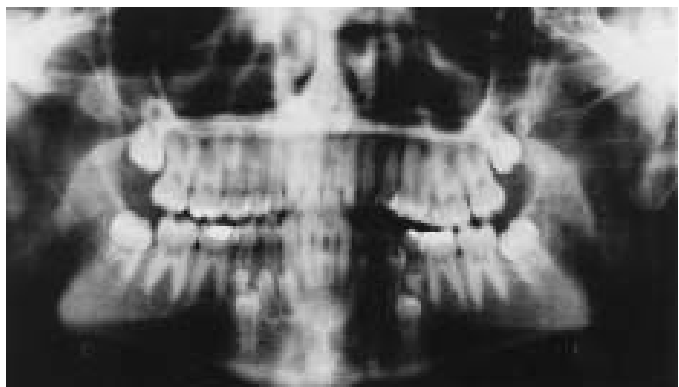


Fig. 1: Dental panoramic tomogram of case 1 showing multiple buried supernumeraries (all four quadrants are involved)

A total of ten supernumerary teeth were seen, nine of which were unerupted supernumeraries ( $S^{UE}$ ). The DPT (Fig. 2) showed no other abnormality or evidence of cystic degeneration around any of the unerupted supernumeraries.

The palatally erupted parapremolar of the left maxilla was surgically extracted revealing two roots (Fig. 3). The mother was reassured that the unerupted asymptomatic supernumeraries were best left alone as attempts at surgical removal might result in damage to vital anatomical structures such as inferior dental nerve or mental nerve. It was suggested that a follow-up DPT be taken every three years to enable early detection of any cystic degeneration associated with the unerupted teeth. The patient was further clinically

Table 2: Chart showing location of unerupted supernumeraries S<sup>UE</sup> in case 1

UE	UE		E	UE	UE																
48	47	46	S <sup>UE</sup>	45	S <sup>UE</sup>	S <sup>UE</sup>	44	S <sup>UE</sup>	43	42	31	32	33	S <sup>UE</sup>	34	35	S <sup>UE</sup>	S <sup>UE</sup>	36	37	38
41																					



Fig. 2: Shows the extracted palatally erupted parapremolar in case1 with 2 roots.



Fig. 3: DPT of case 2 shows 11 asymptomatic supernumeraries.

Table 3: Chart showing the location of erupted and unerupted supernumeraries.

UE	UE	E	E	E	E																
28																					
48	47	46	S <sup>E</sup>	45	44	S <sup>E</sup>	43	42	41	S <sup>UE</sup>	31	32	33	S <sup>UE</sup>	34	35	S <sup>UE</sup>	S <sup>UE</sup>	36	37	
38																					

examined and assessed to rule out syndromes such as basal cell nevus syndrome and cleidocranial dysostosis. Gardner’s Syndrome was also ruled out.

**Case Report 2 – Trinidad**

A 32-year-old Trinidadian male of East Indian descent presented to the Dental Polyclinic at the School of Dentistry, The University of the West Indies, St Augustine, Trinidad and Tobago, with pain in the left mandibular region due to a grossly carious tooth #37. There was nothing of significance in his medical history. However, the clinical examination revealed left submandibular lymphadenopathy extra- and intra-orally.

The patient showed poor oral hygiene, multiple carious lesions, multiple supplemental/supernumeraries in the upper left and lower right premolar regions (3 on the upper left and 2 on the lower right), distal rotation of 11, and mesiodens in the upper anterior region with absence of tooth #21 clinically. Radiographically the DPT (Fig. 4) revealed 11 asymptomatic supernumeraries: 6 erupted (S<sup>E</sup>) and 5 unerupted (S<sup>UE</sup>) (Fig. 5).

**DISCUSSION**

Prior to the discussion on the management of multiple unerupted supernumerary teeth, it is important to mention the effect of supernumerary teeth on the developing dentition. These effects are as follows: no effect, crowding, failure of eruption of adjacent permanent teeth, dis-placement and ectopic eruption, formation of diastema, root resorption of adjacent dentition, dilaceration of adjacent dentition and loss of vitality.

In a recent study in Jamaica of 478 dental panoramic tomograms, Hayes (4) reported an incidence of 3.14% for supernumerary teeth occurrence with no statistically significant difference between the males and females (4). Of these, 53.33% were distomolars (4<sup>th</sup> molar). Two cases, both males, involved the presence of distomolars in all the four quadrants of the jaw. Equal numbers of first and second premolars were found as well as two lower incisors. However, only two mesiodens were found and involved a female and a male patient. Additionally, a male patient with distomolar (4<sup>th</sup> molar) in each quadrant also exhibited evidence of a 5<sup>th</sup> molar or tubercle in the upper left tuberosity region.

The classification of supernumerary teeth is seen in Table 1. They vary from a simple odontome through a conical type to a supplemental type. The incidence of supernumerary teeth varies according to published studies. They are less common in the deciduous dentition with a reported incidence of 0.3% to 1.7% of the population (5). The overall prevalence of supernumerary teeth however varies between 0.1 and 3.6 per cent of the population (3). Fuss and Sampson (2) reported an incidence of 2.3% in Australia (2). Luten (6) reported an incidence of 2% (however this would be more as his radiographic method included the use of the bitewing and periapical radiographs, without the use of DPT, hence the exclusion of deeply buried supernumerary teeth and distomolars). The relative frequency of different supernumerary teeth as reported in the

literature seems to differ. Luten's study (6) suggested a decreasing order of frequency of 50% for upper lateral incisors, 36% for mesiodens, 11% for upper central incisors and 3% for the bicuspids. Shapira and Kuffinec (7) reported an order of decreasing frequency as being upper central incisors, molars (especially upper molars) premolars followed by lateral incisors and canines. The incidence of multiple supernumeraries is lower than that of single and double supernumeraries. In their study, Fuss and Sampson reported 68.6% for single supernumeraries, 20.3% for double and 11.1 % for multiple supernumeraries.

Most authors have reported a male: female ratio of 2:1 (2, 8). A much higher male : female ratio has been reported for Japanese children (5.5:1) and children from Hong Kong (6.5:1) in a study of supernumerary teeth in Asian school children.

Definitive diagnosis and elucidation of a treatment plan can only be formulated after appropriate clinical and radiological assessment. The assessment should also be capable of including or excluding a syndrome in association with the multiple unerupted supernumeraries. Observation and follow-up radiographs may be the only treatment necessary if buried teeth are asymptomatic and show no evidence of cyst formation. Radiological assessment should be periodical.

Symptomatic multiple buried supernumerary (MBS) may have to be surgically removed after appropriate education of the patient and parent about the risk of damage to adjacent teeth and vital anatomical structures. On the other hand, surgical removal of some MBS may be indicated for orthodontic reasons. Distraction osteogenesis with or without orthodontic treatment may also play a role in the definitive treatment of MBS.

The two cases in this report did not require any definitive treatment other than the extraction of the parapremolar in Case 1. Long-term radiological follow-up is suggested for early detection of cystic degeneration of the buried teeth. This is best carried out by periodic dental panoramic tomogram.

### CONCLUSION

Multiple buried supernumerary teeth are rare dental developmental anomalies, usually a chance finding on radiographs. Controversy continues with regards to optimal treatment. Because of the increasing use of DPT in the Caribbean, it is important for the general dental practitioner to appreciate the radiological presentation of MBS teeth and also the need for no treatment in most cases except the long-term clinical or radiological follow-up of the affected patient.

### ACKNOWLEDGEMENTS

The authors wish to thank Kathy-Ann Hercules-Wilson for her secretarial role in the production of this manuscript.

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