Research Article

A Population Study on the Frequency of Supernumerary Teeth in 1000 Patients

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Abstract

Objective: To find out the prevalence of supernumerary teeth in a population of patients who reported to School of Dental Sciences, Sharda University, Greater Noida.

Background: Supernumerary are the teeth present in addition to the normal number of teeth. They can be single or multiple, unilateral or bilateral, erupted or impacted, and in one or both jaws.

Patients & Methods: The study was conducted on 1000 patients who reported to the School of Dental Sciences, Sharda University, for dental treatment. Case history & clinical details of the oral cavity were entered in a case history performa, which included the age, sex, location, morphology, type of supernumerary tooth and also whether it was associated with any complications. Radiographs (IOPA/OPG) were taken to confirm the clinical findings and the data collected was analysed statistically.

Results: Out of 1000 patients, supernumerary teeth were detected in 19 cases. Of the total 19 supernumerary teeth, 12 (63%) were located in the maxilla, while 7 (37%) were located in the mandible. The mean age of the patients was 25 years (age range 18-50 years) and the incidence was found to be more common in males (n=12) than females (n=7). The most common supernumerary tooth was mesiodens, located between the maxillary central incisors (n=9), followed by parapremolars (n=5), distomolars (n=3) and paramolars (n=2). 11 of the supernumerary teeth were impacted while 8 were erupted. Three- fourth of the cases (n= 15) were morhologically deformed. Complications associated were mainly displacement of adjacent teeth, crowding, and ectopic eruption, resulting in malocclusion (n=14) and resorption of adjacent teeth (n=5).

Conclusion: Supernumerary teeth are of great concern to the dentist as well as the patient owing to its associated complications. Clinical and radiographic identification of all these teeth are important for good treatment planning.

Introduction

A supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch.[1] This can be described as the presence of more than 20 deciduous or 32 permanent teeth in one individual. This condition occurs in 0.1% - 3.7% of

individuals within most populations [2] and has been reported to have a male predilection.[11] Occurrence 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. The conditions commonly associated with an increased prevalence of supernumerary teeth include cleft lip and palate, cleidocranial dysplasia, and Gardner syndrome.[1] Classification of supernumerary teeth may be on the basis of position or form. Positional variations include 1. Mesiodens (present in the incisor region); 2. Paramolars (present beside a molar); 3. Distomolar (present distal to the last molar); 4. Parapremolars (present beside a premolar). Based on the shape, they can be of four types: 1. Conical (peg shaed teeth); 2. Tuberculate (made up of more than one cusp or tubercle. They are barrel-shoaed, usually invaginated; 3. Supplemental (resemble normal teeth. May be incisors, premolar or molar); 4. odontome (does not resemble any teeth but is only a mass of dental tissue.[12]

The presence of supernumerary teeth is associated with numerous abnormalities in neighboring teeth: over retained or delayed eruption of teeth, ectopic eruption, tooth malposition, occlusal problems, diastemas, tooth displacement, cosmetic problems, cysts derived from the follicle of the supernumerary tooth, dental caries in neighboring teeth due to an increased plaque retention, root resorption, periodontal lesions due to compression of adjacent roots and pulp necrosis.[14] Treatment depends on the type and position of the supernumerary tooth and on its effect on adjacent teeth.[1]

Patients & Method

The study was conducted on 1000 patients who reported to the School of Dental Sciences, Sharda University, for dental treatment. Case history & clinical details of the oral cavity were entered in a case history performa, which included the age, sex, location, morphology, type of supernumerary tooth and also whether it was associated with any complications. Radiographs (IOPA/OPG) were taken to confirm the clinical findings and the data collected was analysed statistically.

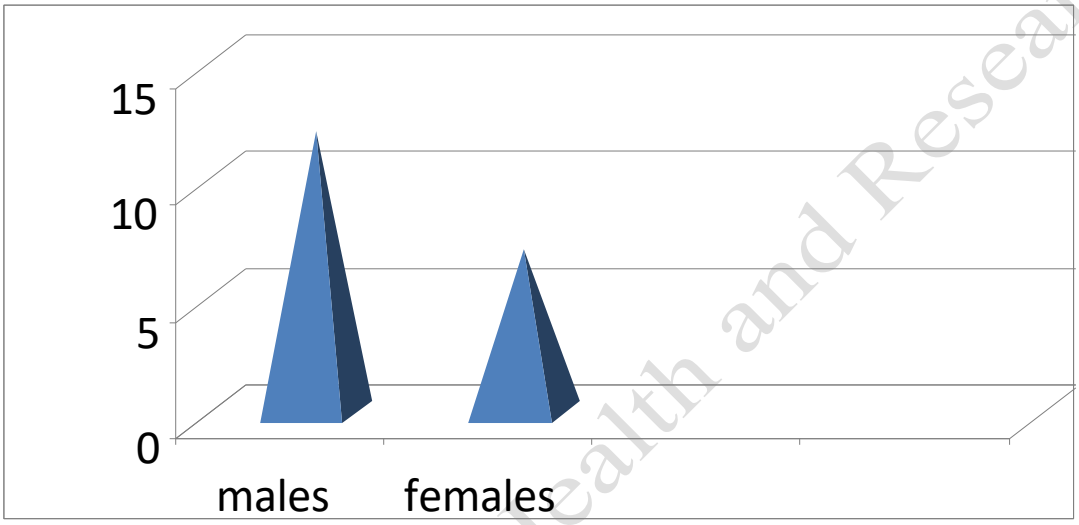
Results

Out of 1000 patients, supernumerary teeth were detected in 19 cases. Of the total 19 supernumerary teeth, 12 (63%) were located in the maxilla, while 7 (37%) were located in the mandible. The mean age of the patients was 25 years (age range 18-50 years) and the incidence was found to be more common in males (n=12) than females (n=7). The most common supernumerary tooth was mesiodens, located between the maxillary central incisors (n=9), followed by parapremolars (n=5), distomolars (n=3) and paramolars (n=2). 11 of the supernumerary teeth were impacted while 8 were erupted. Three-fourth of the cases (n= 15) were morhologically deformed. Complications associated were mainly displacement of adjacent teeth, crowding, and ectopic eruption, resulting in malocclusion (n=14) and resorption of adjacent teeth (n=5).

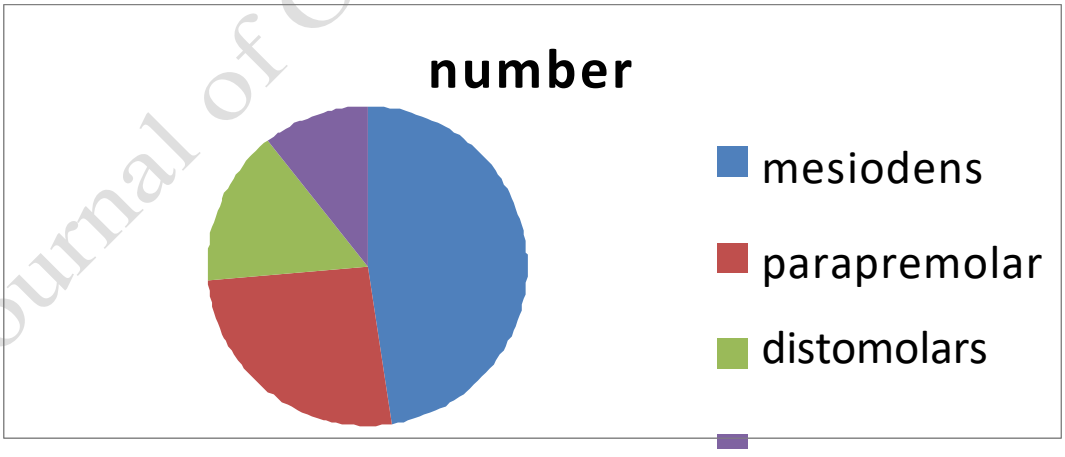
Discussion

Supernumerary teeth are defined as those that are present in excess of the

normal complement of human dentition and represent a unique developmental anomaly of patterning and morphogenesis.[5] The aetiology of supernumerary teeth is not fully understood. Both genetic and environmental factors have been proposed and a sex-linked mode of inheritance has been suggested.[6] It may be due to dichotomy of the tooth bud or due to hyperactivity theory, suggesting that they are formed as a result of local, independent, conditioned hyperactivity of the dental lamina[12]. Heredity may also play a role in the occurrence of this anomaly, as supernumeraries are more



Distribution of supernumerary teeth according to sex



Distribution of supernumerary teeth according to type

common in the relatives of affected children than in the general population. However, the anomaly does not follow a simple Mendelian pattern.[1] Hall A postulated that subjects with supernumeraries present are reverting toward a primitive mammalian dental formula of three incisors, one canine, four premolars and three molars. [6] In our study, the incidence of supernumerary teeth was 1.9%, which lies within the confines of other reported cases.[2]

We found supernumerary teeth to be more common in males (63%) compared to females (37%). Ferrés-Padró E has reported a similar finding with male:female ratio of 1.82:1.[7] The mean age of the patients was 25 years (age range 18-50 years).

In our study, supernumerary teeth were more commonly located in the maxilla (63%) compared to the mandible (37%). Yaque-Garcia J also reported the upper jaw as the most frequent location (76.47%).[9] The most common supernumerary tooth found was mesiodens (47%). This incidence was followed by parapremolars (26%), distomolars (15%), paramolars (10%). Esenlik E also reported mesiodens as the most frequent supernumerary tooth (51.2%).[8]

11 of the suprenumerary teeth were found to be impacted while 8 had erupted in the oral cavity.

15 (79%) supernumerary teeth were morhologically deformed; the most common shape being conical (85%), followed by supplemental (15%). Ferrés-Padró E[7], Anthonappa RP[10] also found the conical shape to be commonest.

Hegde and Munshi [15], Mason et al [16], Diaz A[14] reported displacements, rotations, ectopic eruption, and malocclusion in their studies; similar alterations were noted in our study.

Conclusion

Most supernumerary teeth are located in the anterior maxillary region. Their presence may give rise to a variety of clinical problems. Detection of supernumerary teeth is best achieved by thorough clinical and radiographic examination. Their management should form part of a comprehensive treatment plan.[1]

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