Original Research Article
Journal of Pierre Fauchard Academy (India Section), *Vol 38(3-4), DOI: 10.18311/jpfa/2024/46243, July-December 2024 p. 52-55*
ISSN (Print) : 0970-2199
ISSN (Online) : 2405-772X

Prevalence of Supernumerary Teeth among Non-Syndromic North Indian Population: A Survey

Antra Saket[1*], Sonal Gupta[2], Rohan Shrivastava[1], Utkarsh Singh[1] and Shalu Pathak[1]

[1]Post Graduate Student, Department of Pediatric and Preventive Dentistry, Kanti Devi Dental College and Hospital, Rupaspur – 281006, Uttar Pradesh, India; antrasaket2@gmail.com, rohanshrivastava5555@gmail.com, gabbarutkarsh@gmail.com, shalupathak823@gmail.com

[2]Head of the Department, Department of Pediatric and Preventive Dentistry, Kanti Devi Dental College and Hospital, Rupaspur – 281006, Uttar Pradesh, India; sonalpedo@gmail.com

Abstract

Aim: A supernumerary tooth is defined as a developmental abnormality characterised by an excess number of tooth buds. This study aimed to estimate the prevalence of supernumerary teeth among the non-syndromic population of Mathura City, India. **Materials and Methods:** A sample size of 2150 patients was included in the survey. Demographic details including the patient's age, gender, the presence of supernumerary teeth, their type, location, and associated pathology such as mechanical trauma, dental caries were recorded. **Results:** The study found 21 supernumerary teeth from the examined 2150 patients and the survey was conducted over a period of 6 months. The prevalence rate of supernumerary teeth was 0.97% with the greatest prevalence in the maxillary arch and no supernumerary teeth in the mandibular arch was reported in this survey. In the maxillary arch prevalence of mesiodens was 0.9% with others being only 0.09% (paramolars). **Conclusion:** The prevalence of supernumerary tooth was 0.97% among the sample of 2150 patients. The greatest prevalence was found in the maxillary anterior region with mesiodens being the most common supernumerary teeth in this arch.

Keywords: Mixed Dentition, Supernumerary Teeth

1. Introduction

Supernumerary tooth or hyperdontia is defined as any tooth that is not part of the regular series i.e., normal dental formula and they can be located in nearly every area of the dental arch[1,2]. It is a dental developmental anomaly of patterning and morphogenesis[3]. It has been suggested that a mix of genetic and environmental variables account for the prevalence of ST[4]. Supernumerary teeth can appear in both primary and permanent dentition, and can also occur in any place of the tooth-bearing regions in both dental arches but they most commonly occur in the premaxilla and can be single, numerous, unilateral, or bilateral in distribution[4,5]. Prevalence of it is more likely to occur in males than females (2:1)[6]. In deciduous dentition, the frequency of extra teeth is 0.3-0.8%, while in permanent dentition, it is 1.5-3.5%[7].

Supernumerary teeth can be classified based on shape (such as conical, Tuberculate, Supplemental, Odontomes) and based on location such as (mesiodens, paramolar, distomolar, parapremolar)[8]. About 80% of these teeth are located in the maxillary midline region, they are the mesiodens. The maxillary fourth molar, or distomolar, is the second common supernumerary tooth and is located distal to the third molar[9-11].

The development of follicular cysts, overcrowding, delayed eruption, ectopic eruption, impaction, and spacing abnormalities are among the complications connected to having extra teeth[12,13]. Treatment is determined by their nature, location, and potential consequences, which are identified radiographically and clinically. Repositioning excess teeth inside the dental arch is an additional treatment option, while surgical extraction is still the most usual procedure[2]. Thus, the main objective of this study

**Author for correspondence*

Article Received on: 05.10.2024 Revised on: 27.10.2024 Accepted on: 10.11.2024

was to determine the prevalence rate of supernumerary teeth among various schools in Mathura City.

2. Materials and Method

A routine dental survey was conducted among 2150 patients, in about 15 different schools of Mathura city to identify the prevalence of supernumerary teeth occurrence. The screening was conducted in patients aged between 6-16 years using a mouth mirror, explorer and under natural light. The examination for the survey was conducted with the help of two examiners, one examined the patients and the other recorded the data. For each patient, we recorded the demographic variable such as the age of the patient as well as the position of the supernumerary teeth in the maxillary and mandibular arch only clinically. An examination of the data was conducted using statistical methods. All acquired data were statistically examined using chi-square testing, cross-tabulations, and descriptive statistics.

3. Result

Among 2150 patients examined and the total number of supernumerary teeth found was 21 in number, thus the prevalence being 0.97%. As per the location in our study, it was present only in the maxillary arch with no supernumerary teeth in the mandibular arch. (Table 1). In the maxillary arch, the most common type of supernumerary teeth were mesiodens 0.9% in the anterior region followed by paramolar 0.09% in the molar region (Table 2, Figure 1) with no distomolar supernumerary teeth.

Table 1. Prevalence and distribution of supernumerary teeth

Total patients (N)	Total number of supernumerary teeth (n)	Pre valence (%)	Maxilla (n)	Mandible (n)
2150	21	0.97%	21	0

Table 2. Distribution of type of supernumerary teeth in the maxillary arch

Type of Supernumerary Tooth	Number	Percentage
Mesiodens	19	0.9%
Paramolar	2	0.09%
Distomolar	0	0

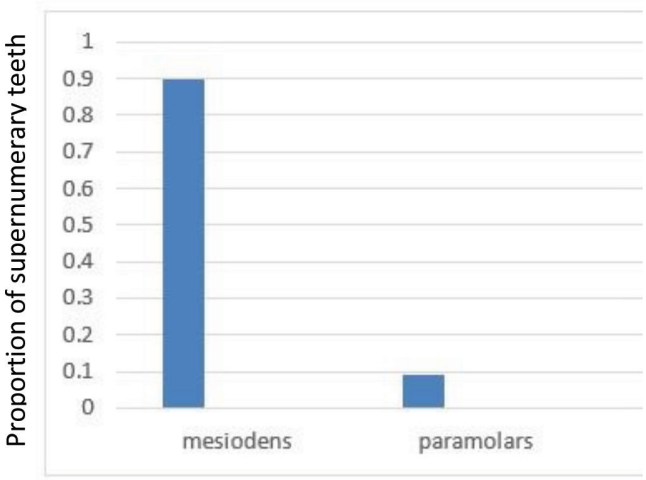


Figure 1. Distribution of supernumerary teeth according to location.

4. Discussion

Supernumerary teeth, a developmental abnormality, can affect any tooth and appear anywhere in the dental arches[14]. They can be seen in populations that are neither syndromic nor linked to syndromes[15]. Supernumerary teeth can occasionally be found as an accidental finding during radiographic testing and present with no symptoms. It is imperative to have a comprehensive investigation, a detailed history, a clinical examination, an early diagnosis, and the proper treatment of extra teeth[16].

Mesiodens were the most common supernumerary teeth in the maxilla, and because of their central location, the supernumerary tooth between the central maxillary incisors is known as the mesiodens[17]. Complications such as retention of the permanent teeth, abnormal root development, crowding, and spacing of the anterior teeth are more commonly associated with mesiodens than supernumerary teeth in the posterior region[17].

The occurrence rate of mesiodens was 80.0%, according to a study conducted by Leco *et al.* and Esenlik *et al.* conducted a study among 2599 participants; and found supernumerary teeth among 69 cases, whose ages ranged from 6 to 16, this represented 2.7% incidence[15,18]. In another study conducted by Ferres-Padro *et al.* Mesiodens were the most commonly detected supernumerary teeth (53.16%) in patients ages ranging from 5 to 19 years[19]. Sharma and Singh performed a similar study on a population ranging in age from 4 to 14 years and found that 81.2% of the supernumerary teeth were located in the central incisor region, of which 30.0% were mesiodens[20].

These findings indicated that mesiodens were the most frequently observed extra teeth in children and young adolescents in the average age ranging from 5-16 years and our study also had the same observations.

Kuchler *et al.* in their study observed that the frequency of supernumerary teeth was found to be 2.3% among 1166 patients and the age of the population ranged from 6 to 12 years[21]. Mahabob MN *et al.* conducted a study among 2216 patients and found that the prevalence of supernumerary teeth was 1.2 % with maxillary mesiodens being the most common[20]. Singh *et al.* conducted a study among 3000 school-going children of age 6–15 years and found the prevalence of ST was found to be 1.87%[22]. All these studies indicated a low prevalence of supernumerary teeth and in our survey also which was conducted among 2150 patients the prevalence of supernumerary teeth was found to be 0.97%, thus our study had the same observations as other studies.

As such, supernumerary teeth do not cause any complications. However, these may lead to delay or failure of eruption of permanent teeth, displacement of adjacent teeth and it may also be associated with crowding[16]. The type, position, and potential problems found during a clinical and radiographic evaluation determine how supernumerary teeth should be treated[23].

Limitations of the Study

In the present study, we recorded data only clinically. So, data may differ if it was recorded radiographically. Also, the number of patients observed in this study was less, which may vary the result.

5. Conclusion

The prevalence of supernumerary teeth was 0.97% among the sample of 2150 patients. The greatest prevalence of it was found in the maxillary anterior region as compared to the maxillary posterior region. Mesiodens were the most common supernumerary teeth followed by Paramolars. No, supernumerary teeth were observed in the mandibular arch.

6. References

1. Garvey MT, Barry HJ, Blake M. Supernumerary teeth-an overview of classification, diagnosis and management. J Can Dent Assoc. 1999; 65(11):612-6.
2. Ata-Ali F, Ata-Ali J, Peñarrocha-Oltra D, Peñarrocha-Diago M. Prevalence, etiology, diagnosis, treatment and complications of supernumerary teeth. J Clin Exp Dent. 2014; 6(4):e414. https://doi.org/10.4317/jced.51499 PMid:25593666 PMCid:PMC4282911
3. Küchler EC, Costa AG, Costa MD, Vieira AR, Granjeiro JM. Supernumerary teeth vary depending on gender. Braz Oral Res. 2011; 25:76-9. https://doi.org/10.1590/S1806-83242011000100013 PMid:21359454
4. Mallineni SK. Supernumerary teeth: Review of the literature with recent updates. Conference Papers in Science; 2014. https://doi.org/10.1155/2014/764050
5. Anthonappa RP, King NM, Rabie AB. Aetiology of supernumerary teeth: A literature review. Eur Arch Paediatr Dent. 2013; 14:279-88. https://doi.org/10.1007/s40368-013-0082-z PMid:24068489
6. Sharma A. Familial occurrence of mesiodens - A case report. J Indian Soc Pedod Prev Dent. 2003;21:84-5.
7. Rao PV, Chidzonga MM. Supernumerary teeth: Literature review. Cent Afr J Med. 2001;47:22-6. https://doi.org/10.4314/cajm.v47i1.8588 PMid:11961855
8. Shah A, Gill DS, Tredwin C, Naini FB. Diagnosis and management of supernumerary teeth. Dent update. 2008; 35(8):510-20. https://doi.org/10.12968/denu.2008.35.8.510 PMid:19055087
9. Alaejos C, Contreras MA, Buenechea R, Berini L, Gay C. Mesiodens: A retrospective de una serie de 44 pacientes. Med Oral. 2000; 5:81-8.
10. Danalli DN, Buzzato JF, Braum TW, Murphy SM. Long-term interdisciplinary management of multiple mesiodens and delayed eruption: Report of a case. J Dent Child. 1998; 55:376-80.
11. Shafer WG, Hine MK, Levy BM. Textbook of oral pathology. 6th ed. Noida: Elsevier Publication; 2009. p. 46-7. https://doi.org/10.4103/0973-029X.48886
12. Bayrak S, Dalci K, Sari S. Case report: Evaluation of supernumerary teeth with computerized tomography. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2005; 100:e65-9. https://doi.org/10.1016/j.tripleo.2005.05.065 PMid:16182154
13. De Oliveira Gomes C, Drummond SN, Jham BC, Abdo EN, Mesquita RA. A survey of 460 supernumerary teeth in Brazilian children and adolescents. Int J Paediatr Dent. 2008; 18:98-106. https://doi.org/10.1111/j.1365-263X.2007.00862.x PMid:18237292
14. Demiriz L, Durmuşlar MC, Mısır AF. Prevalence and characteristics of supernumerary teeth: A survey on 7348 people. J Int Soc Prev Community Dent. 2015; 5(Suppl 1):S39-43. https://doi.org/10.4103/2231-0762.156151 PMid:25984466 PMCid:PMC4428018
15. Berrocal ML, Morales JFM, González JMM. An observational study of the frequency of supernumerary teeth in a population of 2000 patients. Med Oral Patol Oral Cir Bucal. 2007; 12(2):134-8.

16. Parolia A, Kundabala M, Dahal M, Mohan M, Thomas MS. Management of supernumerary teeth. J Conserv Dent. 2011; 14(3):221-4. https://doi.org/10.4103/0972-0707.85791 PMid:22025821 PMCid:PMC3198547
17. Van Buggenhout G, Bailleul-Forestier I. Mesiodens. Eur J Med Genet. 2008; 51(2):178-81. https://doi.org/10.1016/j.ejmg.2007.12.006 PMid:18262485
18. Esenlik E, Sayin MO, Atilla AO, Ozen T, Altun C, Başak F. Supernumerary teeth in a Turkish population. Am J Orthod Dentofacial Orthop. 2009; 136:848-52. https://doi.org/10.1016/j.ajodo.2007.10.055 PMid:19962608
19. Ferres-Padro E, Prats-Armengol J, Ferres-Amat E. A descriptive study of 113 unerupted supernumerary teeth in 79 pediatric patients in Barcelona. Med Oral Patol Oral Cir Bucal. 2009; 14:E146-52.
20. Sharma A, Singh VP. Supernumerary teeth in Indian children: A survey of 300 cases. Int J Dent. 2012; 2012(1):745265. https://doi.org/10.1155/2012/745265 PMid:22536243 PMCid:PMC3320060
21. Kuchler EC, Costa AG, Costa Mde C, Vieira AR, Granjeiro JM. Supernumerary teeth vary depending on gender. Braz Oral Res. 2011; 25:76-9. https://doi.org/10.1590/S1806-83242011000100013 PMid:21359454
22. Singh AK, Soni S, Jaiswal D, Pani P, Sidhartha R. Prevalence of supernumerary teeth and its associated complications among school-going children between the ages of 6 and 15 years of Jamshedpur, Jharkhand, India. Int J Clin Pediatr Dent. 2022; 15(5):504. https://doi.org/10.5005/jp-journals-10005-2442 PMid:36865721 PMCid:PMC9973100
23. Mahabob MN, Anbuselvan GJ, Kumar BS, Raja S, Kothari S. Prevalence rate of supernumerary teeth among non-syndromic South Indian population: An analysis. J Pharm Bioallied Sci. 2012; 4(Suppl 2):S373-5. https://doi.org/10.4103/0975-7406.100279 PMid:23066293 PMCid:PMC3467922