ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 4, Issue – 1, January - 2021, Page No. : 203 - 207

An Association Of Supernumerary Teeth With Aggressive Periodontitis: A Case Report

[1]Dr.Veena Kalburgi , Head and professor, Department of periodontics, People's college of dental science and research centre, Bhopal, India.

[2]Dr.Sravya Leburu, Private practitioner, Bengaluru, India.

[3]Dr.Neha Awadhiya, Post graduate, Department of periodontics, People's college of dental science and research centre, Bhopal, India.

[4]Dr.Rohit Yadav, Private practitioner, Ahmedabad, India.

[5]Dr.Sai Sri Harsha, Post graduate, Department of periodontics, People's college of dental science and research centre, Bhopal, India.

[6]Dr.Aman Singhal, Post graduate, Department of prosthodontics, People's dental Academy, Bhopal, India.

Corresponding Author: Dr.Veena Kalburgi, Head and Professor, Department of periodontics, People's college of dental science and research centre, Bhopal, India.

Citation of this Article: Dr.Veena Kalburgi , Dr.Sravya Leburu, Dr.Neha Awadhiya, Dr.Rohit Yadav, Dr.Sai Sri Harsha, Dr.Aman Singhal ," An Association Of Supernumerary Teeth With Aggressive Periodontitis: A Case Report", IJDSIR- January - 2021, Vol. – 4, Issue - 1, P. No. 203 – 207.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Aggressive periodontitis comprises a group of rare, often severe, rapidly progressive forms of periodontitis mostly characterized by an early age of clinical manifestation. Abnormal dental morphology and position have been associated with severe periodontal diseases. The aim of this paper is to report two cases of dental anomalies associated with Aggressive Periodontitis. Clinical findings and history led to the diagnosis of Aggressive Periodontitis and radiographically, it was associated with multiple dental anomalies, which included impacted permanent teeth, impacted supernumerary teeth and retained deciduous teeth. The present case reports of Aggressive Periodontitis associated with impacted teeth is purely a co-incidence or an association merits further investigations.

Keywords: Aggressive Periodontitis; dental anomalies; impacted teeth; radiograph

Introduction

The condition of supernumerary teeth, or hyperdontia is defined as an excess number of teeth compared to the normal dental formula, or existing of teeth additional to the normal series in the dental arches. Their classification is dependent on their position and form. The presence of multiple supernumerary teeth is a rare condition. Most of the cases are found in association with syndromes such as

Gardner's syndrome, cleidocranial dysostosis, cleft lip and palate etc.[1] It has been reported that the prevalence for non-syndrome multiple supernumerary teeth is less than 1%.[1-2] The male to female ratio has been reported as 9:2 by Yusof.[2]

Although there is no agreement on the etiology of supernumerary teeth, one etiologic theory suggests that the supernumerary tooth is formed as a result of a dichotomy of the tooth bud.[3] Another theory is the hyperactivity theory, which proposes that supernumeraries are formed due to local, independent, conditioned hyperactivity of the dental lamina.[3-4] Heredity may also play a role in the occurrence of this anomaly. However, the anomaly does not follow a simple Mendelian pattern.

Aggressive periodontitis is characterized by severe and rapid loss of periodontal attachment. It is observed more common in children and adolescents. In young individuals, the onset of these diseases is often circum pubertal. The primary features of aggressive periodontitis include a history of rapid attachment and bone loss with familial aggregation.[5]

The possible association between supernumerary teeth and aggressive periodontitis has been reported in literature.[6-7] In our study, reported two cases with dental anomalies associated with aggressive periodontitis. One case presented with impacted supernumerary teeth and other with impacted permanent teeth. The aim of this case report is to report two cases of dental anomalies associated with Aggressive Periodontitis.

Case report 1: A 24 years old male patient reported to Department of Periodontology, Peoples College of Dental Sciences with a chief complaint of loosening of teeth in upper and lower front tooth region. She did not have any positive family history of mobility of teeth. The medical history was also found to be non relevant. On intra oral examination, the gingival recession was observed with mandibular anterior teeth with interdental spacing (Fig 1). The gingiva appeared to be red and edematous, with an altered contour. The gingival stippling was absent. The plaque and calculus was not found to be appreciable in both maxillary and mandibular anterior teeth (Fig 2). On probing the gingiva, it elicited bleeding and deep periodontal pockets were observed. It was found that many teeth have appreciable mobility of the level of miller grade 1.

The patient was subjected to radiographic investigations after clinical examination. The panoramic radiography showed generalized mild to moderate horizontal bone loss, and vertical bone loss were restricted to only certain teeth. But evidently, the panoramic radiograph revealed the presence of two impacted supernumerary teeth, two supplemental premolars and one distomolar (Fig 3). Siblings and parents of patient were also examined both clinically and radiographically, but they did not showed any dental anomaly including supernumerary teeth. Thus, the case was found to have non familial and non syndromic occurrence of dental anomalies, along with periodontal disease. According to clinical and radiographic findings, the patient was diagnosed with generalized aggressive periodontitis with multiple impacted supernumerary teeth.

After informing the patient about her oral condition, whole treatment was explained and consent for the treatment was taken. The treatment included a full mouth scaling and root planning under the coverage of systemic antibiotics. After 6 weeks, the patient was again examined clinically and procedure of flap surgery was planned accordingly. After complete resolution of periodontal infection, the patient was kept on personalized maintenance care program. The patient is still under follow up.

Fig 1: Intraoral picture depicting periodontal pocket in maxillary anterior teeth

Fig 2: Intraoral picture depicting periodontal pocket in mandibular posterior teeth

Fig 3: OPG depicting vertical bone loss in maxillary and mandibular anterior region and molar region

Case report 2: A 22 year old male patient visited to Department of Periodontology, Peoples College of Dental Sciences with a chief complaint of bleeding gums and loosening of her teeth. She did not have any relevant family and medical history. The intra oral examination revealed missing mandibular teeth 41 and 31 because of grade 3 mobility. The gingival recession was observed with mandibular anterior teeth (Fig 4). Clinical examination revealed minimal plaque and calculus accumulation. Gingival probing elicited bleeding. On thorough clinical examination, deep periodontal pockets were also observed. It was found that many teeth were mobile. The patient was subjected to radiographic investigations. The panoramic radiograph showed mild to moderate horizontal bone loss and some teeth showed vertical bone loss. Accidently, panoramic radiograph showed four impacted permanent teeth, retained deciduous canine and dilacerated distobuccal root of 1st molar (Fig 5).

Siblings and parents of patient were also examined both clinically and radiographically, but they did not showed any dental anomaly including supernumerary teeth. Thus, the case was found to have non familial and non syndromic occurrence of dental anomalies, along with periodontal disease. According to clinical and radiographic findings, the patient was diagnosed with generalized aggressive periodontitis with multiple impacted supernumerary teeth.

After informing the patient about her oral condition, whole treatment was explained and consent for the treatment was taken. The treatment included a full mouth scaling and root planning under the coverage of systemic antibiotics. After 6 weeks, the patient was again examined clinically and procedure of flap surgery was planned accordingly. After complete resolution of periodontal infection, the patient was kept on personalized maintenance care program. The patient is still under follow up.

Fig no. 4: Intraoral picture of patient of Case 2 depicting gingival recession in mandibular anterior teeth and multiple missing teeth

Fig no. 5: OPG of patient of Case 2, depicting vertical bone loss in maxillary and mandibular anterior region and molar region, with the presence of multiple supernumerary teeth

Discussion

It is rare to find multiple supernumerary teeth with no associated diseases or syndromes. The few studies that have been conducted have found that the prevalence of supernumerary teeth in permanent dentition ranges from 0.15% to 3.8%.[2] Scheiner[8] has reported an occurrence of 11.1% for multiple supernumerary teeth. However, where "multiple supernumerary teeth" is taken to mean five or more supernumerary teeth, the prevalence has been reported as less than 1%.[2,8] The aetiology of supernumerary teeth still remains unclear. Although many theories for explanation of the development of this anomaly have been proposed, localized and independent hyperactivity of the dental lamina is the most generally accepted cause for the development of supernumerary teeth.[2-5] Because supernumerary teeth are mostly seen in individuals with some other dental anomalies and developmental disorders, it is thought that their development may be influenced by a combination of hereditary and environmental factors. Hattab et al[9] described hyperdontia as "a multifactorial inheritance disorder which originates from hyperactivitiy of the dental lamina". Many authors suggested that local independent dental lamina remains may be activated, causing supernumerary teeth. In addition, previous reports emphasized the early diagnosis in these subjects. Supernumerary teeth are more often found in males than in females. Many authors have reported a male–female ratio of 2:1.[3,6]

Aggressive periodontitis comprises three diseases-prepubertal, juvenile, and rapidly progressive periodontitis-that were formerly classified as early onset periodontitis (also called periodontosis). Clinical forms of aggressive periodontitis include localized and generalized variants that show specific clinical and laboratory features. The diagnosis of aggressive periodontitis in our cases was based on the following features: (1) noncontributory medical history, (2) rapid attachment loss and bone destruction, (3) inconsistency between microbial deposits and severity of destruction, (4) generalized interproximal attachment loss that affected at least three permanent teeth in addition to the first molars and incisors, and (5) radiographic finding of vertical bone defects.

The association between aggressive periodontitis and supernumerary teeth has been shown in few studies.[7,10] Eley reported an acceptable case of periodontosis and supernumerary teeth (4 supernumerary molars)[11]. Since then, other researchers have also reported such a

phenomenon Aggressive periodontitis and supernumerary teeth have a familial pattern of inheritance and racial predisposition.[7,10-11]

However, aggressive periodontitis has not been observed in patients with any of the syndromes that are typically characterized by the presence of multiple supernumerary teeth. Environmental factors act as etiological factors for aggressive periodontitis and supernumerary teeth. Thus, both these entities exhibit etiological heterogeneity.

Hence, a concomitant presentation of aggressive periodontitis and supernumerary teeth may have a genetic basis or could be a chance occurrence. Notably, both these conditions also show genetic heterogeneity, in that different genetic mechanisms may play a role in their etiology. Therefore, determination of the genetic basis for this association is very difficult.

Conclusion

The present article presented two cases with non familial and non syndromic occurrence of supernumerary teeth with the presence of aggressive periodontitis. Although there are few cases that report the occurrence of supernumerary teeth, but the association between the two conditions need to be verified.

References

1. Atasu M, Dumlu A, Ozbayrak S. Multiple supernumerary teeth in association with cleidocranial dysplasia. J Clin Pediatr Dent 1996; 21: 85–91.
2. Yusof WZ. Non-syndrome multiple supernumerary teeth: literature review. J Can Dent Assoc 1990; 56: 147–149.
3. Liu JF. Characterstics of premaxillary supernumerary teeth: A survey of 112 cases. ASDC J Dent Child. 1995;62:262–5.
4. Levine N. The clinical management of supernumerary teeth. J Can Dent Assoc. 1961;28:297–303.
5. Armitage GC. Development of a classification system for periodontal diseases and conditions. Ann Periodontol 1999;4:1-6.
6. Açikgöz G, Açikgöz A, Keskiner I, Türk T, Otan F. Aggressive periodontitis with supernumerary teeth: a retrospective study. J Periodontol. 2004;75:1458–60.
7. Odell EW, Hughes FJ. The possible association between localised juvenile periodontitis and supernumerary teeth. J Periodontal. 1995;6:449–51.
8. Scheiner MA, Sampson WJ. Supernumerary teeth: a review of the literature and four case reports. Aust Dent J 1997; 42: 160–165.
9. Hattab FN, Yasin OM, Rawashdeh MA. Supernumerary teeth: report of three cases and review of the literature. J Dent Child 1994; 61: 382–393.
10. Vikas V, Amit G, Sabir M. Supernumerary eumorphic mandibular incisor in association with aggressive periodontitis. J Indian Soc Periodontol. 2010;2:136–138.
11. Eley BM. Periodontosis occurring with supernumerary molars. J Dent. 1974;2:167–170.