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Case Report

Non Syndromic Hyperdontia in Bilateral Mandibular Premolar and Chronic Periodontitis: A Case Report

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Abstract

Odontogenic anomalies may sometimes be encountered in our routine dental practice. These anomalies may pose a challenge to the dentist, considering the magnitude of condition. Hyperdontia in the mandibular premolar region is a rare occurrence. We describe a case report of a 35-year-old male patient, presenting with concurrent occurrence of chronic periodontitis and supernumerary premolar, and a possible correlation between the two entities.
Keywords: Odontogenic anomalies, Hyperdontia, chronic periodontitis and supernumerary premolar.

INTRODUCTION

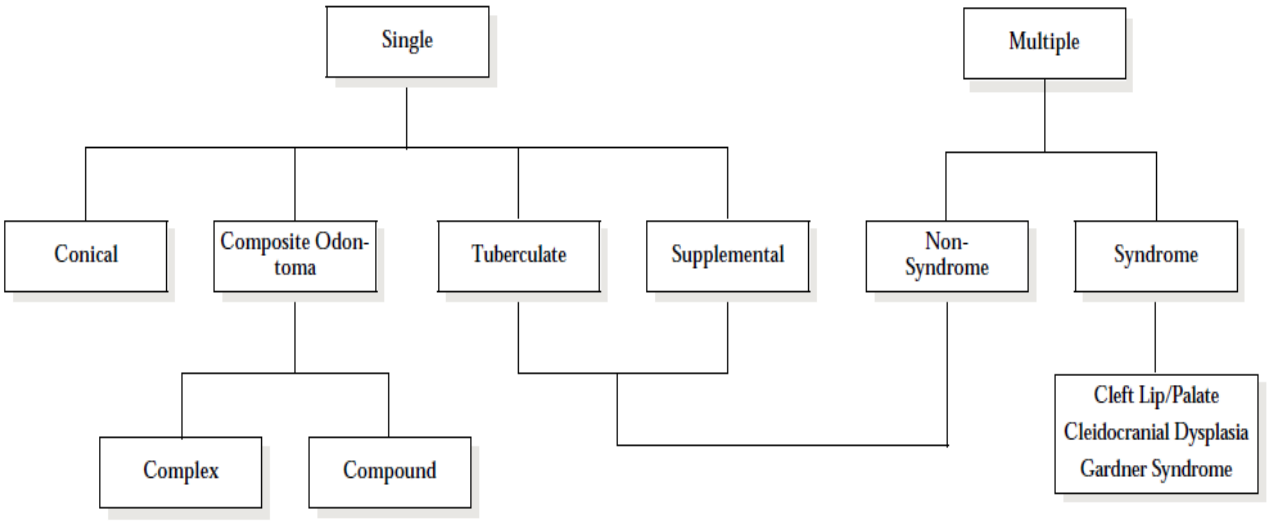
Chronic periodontitis is an infectious disease, resulting in inflammation within the supporting tissues of the teeth, progressive attachment and bone loss. It is characterized by pocket formation and / or gingival recession. Its onset may be at any age, but it is most commonly detected in adults. It is a multifactorial disease, with multiple contributory factors [1]. Supernumerary teeth or hyperdontia is defined as, presence of teeth additional to the normal dental formula in the oral cavity. They are sub classified based on their size, morphology and number (Table-1) [2]. Supernumeraries are frequently located in the palatal area of upper incisors, along the midline of the maxillary arch, lower premolar area and distal of the upper and lower third molars [3]. Various theories were postulated to explain the etiology of hyperdontia, amongst which theory of hyperactivity of the dental lamina is the most accepted theory. It was reported that supernumerary premolar teeth belong to a third (post permanent) series, developing from the extension of the dental lamina [4]. Other possible explanations include, local traumatic episode, dichotomy of the tooth germ, autonomic recessive inheritance or possibly linked to the X chromosome [5]. The prevalence of the supernumerary premolars in permanent dentition is between 0.075-0.26% and that supernumerary premolars account for only 10% of all the supernumerary cases [6]. Studies reported the association of supernumerary premolar with various cysts and pathologies [7]. The purpose of this case report is to present a case of supernumerary teeth in a patient diagnosed with chronic periodontitis.

Case Report

A 35year male patient reported to the Department of Periodontology, with a chief complaint of bleeding gums and foul smell, associated with dull pain in the lower right and left back region of the jaw since few months. He gave a history of similar pain one year back, which subsided after undergoing scaling. However, the symptoms have reoccurred since one-two months, and had visited our department for the same. Patient is a chronic smoker and had a non- contributory medical history. On examination, the gingiva appeared red, showed an altered contour, and lacked stippling. Gingival probing elicited bleeding, and showed the presence of deep periodontal pockets measuring ≥ 5mm. Posterior teeth in the maxillary and the mandibular arch, showed Millers grade I to grade II mobility, along with grade II to III furcation involvement. Maxillary anterior teeth were pathologically migrated. Supernumerary premolars were detected, lingual to the existing 1st premolars on the right and left side of the mandibular arch (Figure-1).These supernumeraries morphologically resembled

the normal series of teeth, and appeared comparatively smaller in size. The gingiva around the fused teeth, appeared markedly inflamed due to calculus deposition and showed grade I mobility. Patient had a non-contributory family history and reported no other associated symptoms. Panoramic radiography showed, generalized moderate-severe horizontal bone loss, with vertical defects restricted to 1st maxillary molars and supernumeraries on either sides (Figure-2). Peri-apical radiolucency was seen near the apical portion of 2nd mandibular molar in the 4th quadrant. Mandibular 3rd molars were mesio angularly impacted. According to the clinical and radiological findings, the patient was diagnosed with generalized chronic periodontitis, along with non-syndromic hyperdontia with the premolars. The patient was informed about his oral condition, and a comprehensive treatment plan was presented to him. The right mandibular permanent 2nd and 3rd molars, along with left mandibular 3rd molar were extracted. As the presence of supernumeraries was contributing to the periodontitis around the premolars, they were extracted. This was followed by full-mouth scaling and root planning performed under local anesthesia. This procedure was supplemented with systemic antibiotic therapy, consisting of amoxicillin (500 mg tid for 7 days) and metronidazole (400 mg tid for 7 days). After six weeks, the patient was examined again clinically; because of the persistence of periodontal lesions, he was advised to undergo flap surgery, to provide access to instrumentation and regenerative therapies. The healing was satisfactory after the surgical management; a removable partial denture was fabricated and inserted in relation to teeth 47. After resolution of the periodontal infection, the patient was placed on a personalized maintenance care program.

Table-1: Supernumerary teeth classification



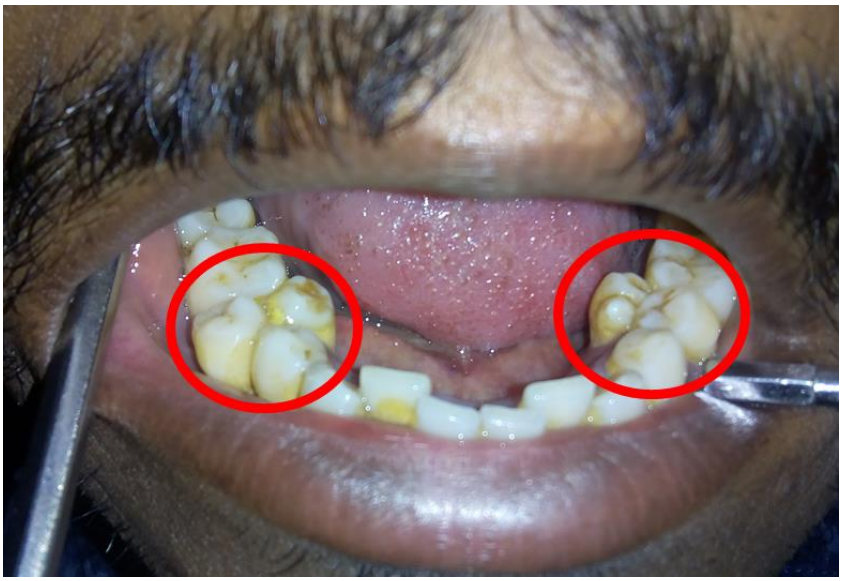


Fig-1: Clinical Picture

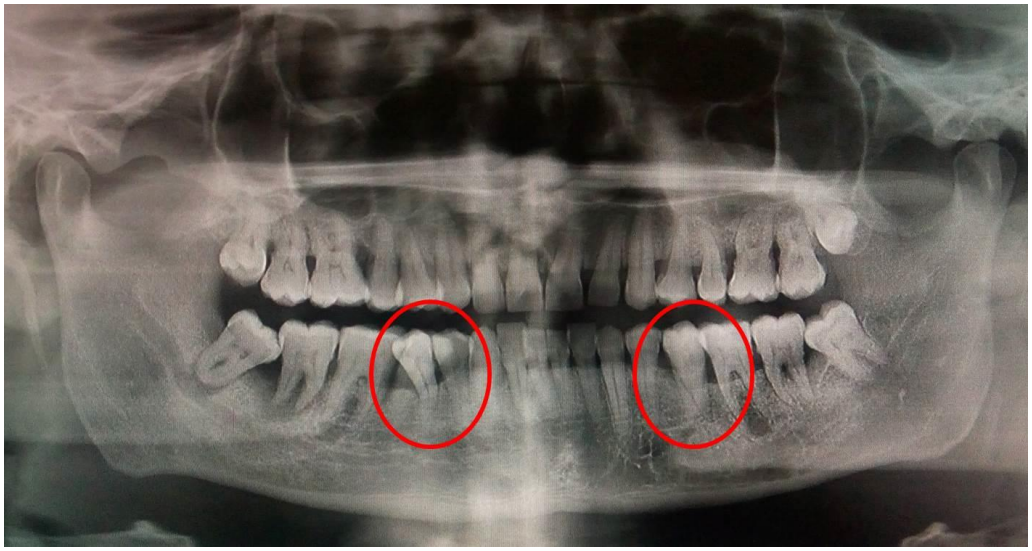


Fig-2: OPG

DISCUSSION

Supernumerary premolars occur more frequently in the mandibular arch, where they are of the supplemental type. Oehlers reported that these premolars can be differentiated, from those of the normal series as being either diminutive, conical, or, if they are well formed, smaller than normal premolars [8]. These anomalies could occur due to various genetic and environmental factors, which alter the course of tooth development. Hyperdontia has been associated with severe periodontal diseases, due to increased plaque accumulation and interference with plaque control [9]. The main periodontal complication in fusion cases occurs, due to the presence of fissures or grooves in the union between teeth involved. Hou et al. have shown a positive correlation between, anatomic variations and localized periodontitis [10]. If these defects are very deep and extend subgingivally, the possibility of bacterial plaque accumulation in this area is quite high. In the present case, periodontal attachment loss in the mandibular premolar region could be explained on similar basis. On the contrary, various local environmental and genetic factors could have possibly played a vital role, in initiation and/or progression of periodontitis in the other regions of the mouth. Eley *et al*., in 1974, was amongst the first to report an association between periodontitis and supernumerary teeth [11]. Later Odell and Hughes in 1995 [12] hypothesized on the possible association between the two, due to their multifactorial and multigenetic etiology. But in a recent retrospective study by Gokhan *et al*., [13], the association was suggested to be a random occurrence, rather than a biological one. Early diagnosis and management is advisable in, treating supernumerary teeth in the premolar region. Presence of a completely erupted supernumerary, may lead to ectopic eruption and malocclusion of the adjacent teeth, extractions should be undertaken to prevent/correct discrepancies. In the case reported, we decided to extract the supernumerary premolars, as the teeth were one of the contributory factors for the progression of periodontitis. In non-symptomatic patients, supernumeraries can be left in situ, if they are aligned with the adjacent teeth, without any consequences. In case of an impacted supernumerary, factors such as patient's symptoms, time of detection, overall treatment plan etc. determine the clinician's decision making.

CONCLUSION

In the case reported, supernumerary premolars were detected in a patient diagnosed with chronic periodontitis. This non-syndromic association between the two seems to be incidental. Through this case report, we would like to emphasize the importance of a precise clinical history, and radiographic examination, when patients with multiple supernumerary teeth visit for consultation, since most of them are associated with other dental anomalies and syndromes.

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