



Calculus splint...? A Rare Case Report

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ABSTRACT:

Introduction-Periodontal diseases are among the most prevalent diseases. The primary etiological factor for periodontal diseases is dental plaque. Inadequate oral hygiene leads to the calcification of dental plaque and results in the formation of dental calculus. Dental calculus in turn serves as a plaque retentive area, thereby contributing to the establishment of periodontal diseases.

Case report-The present unusual case is of a 24-year-old female patient reported to the Department of Periodontology with a chief complaint of generalized mobile teeth in the upper and lower region. The patient was found to have a very huge calculus mass in the mandibular anterior region and it appeared as a Die section and it was found that the patient was removing teeth 33, 32, and 41 as a unit and fixing them individually again with the help of tongue and calculus over that area to maintain esthetics. Younger generations believe their natural teeth are the most important key to maintaining their appearance.

1. Introduction

“Sometimes an absence is more noticeable than a presence, just like a missing tooth”. Losing teeth in the 20’s can be a frightening & embarrassing experience. Self-confidence is one of the most important effects of a natural smile. Younger generations believe their natural teeth are the most important key to maintaining their appearance. Gingivitis, and periodontitis, which are the main periodontal diseases are been associated with the accumulation of dental calculus. Gingivitis generally doesn’t cause any pain or other symptoms, so it remains undetected for quite some time. The main sign of gingivitis are red, swollen and bleeding gums. The gums bleed when you clean your teeth, and sometimes for no obvious reasons too. [1] Inadequate oral hygiene is the root cause of the initiation and establishment of periodontal disease. Dental calculus serves as loci for the retention of plaque and is only a secondary phenomenon for infectious periodontal disease and not the primary etiological factor.[2] Dental plaque is an archetypical

biofilm composed of a complex microbial community. It is the aetiological agent for major dental diseases such as dental caries and periodontal disease.[3] Dental calculus is calcified dental plaque, composed primarily of calcium phosphate mineralsalts deposited between and within remnants of formerly viable microorganisms. A viable dental plaque covers mineralized calculus deposits.[4,5] Oral hygiene habits, dental professional visits, diet, prescribed medication, genetic variation in salivary content, age, gender, and masticatory habits contribute to the extent and location of calculus formation.[6,7]

2. CASE REPORT:

The present unusual case is of a 24-year-old female patient reported to the Department of Periodontology with a chief complaint of Generalized Mobile teeth in the upper and lower region. On Initial observation it was noticed 33,32,41,42,43 teeth with a heavy calculus deposition as shown in fig 1 and fig 2.



Figure 1: On clinical examination-buccal side



Figure 2: On clinical examination-lingual side(Mirror image)

But, on detailed oral examination it was found that the patient was removing teeth 33, 32, and 41 as a unit and fixing them individually again with the help of tongue and calculus over that area as shown in fig 3. She was

placing those exfoliated calculus splinted teeth on soft tissue indentation as no extraction socket was seen as shown in fig 4.



Figure 3: After removal of calculus splinted teeth 33, 32, 41.



Figure 4: The patient continued to keep the exfoliated teeth 33, 32, 41 on the soft tissue indentation for 6 months.

Bleeding from gums and bad breath was also reported by her for 6 years. She used to clean her teeth with



toothpowder. She used to take toothpowder on her index finger and rub the index finger in the horizontal direction on her teeth. There was no contributory past medical history. On Intraoral examination, partially edentulous maxillary and mandibular arch with a total of 20 teeth were present: Missing teeth were 12,11,21,22,36,31,46. Grade III mobility - 16, 25, 26, 34, and Grade II mobility - 17, 15, 14, 13, 23, 24, 25, 27, 35, 43, 44. Five pale yellowish color, hard, non-tender masses were present:

At the mandibular anterior teeth region. Based on clinical examination, these hard masses were diagnosed as calculi. A huge calculus mass extending from 33 to 43 was seen and appeared as a Die section. Routine hematological investigations were performed which is in the normal range. Groundsections of the tooth were performed to rule out any other pathology. Orthopantomograph was also done shown in fig5.



Figure 5: Orthopantomograph

3. DISCUSSION:

The case presented was of deposition of heavy calculus in the mandibular anterior region. The patient was removing teeth 33, 32, and 41 as a unit and fixing them individually again with the help of tongue and calculus over that area made this case a unique one. Negligence toward oral hygiene was the primary reason for such deposition of massive calculus. Promoting adequate oral health care requires dispelling misconceptions regarding dental calculus. Crucial steps towards keeping a healthy smile include understanding the distinction between plaque and calculus, realizing the dangers of calculus build up, and dispelling myths about home cures. People can avoid and control dental calculus by practicing good oral hygiene habits and getting competent dental treatment, safeguarding their entire health and well-being calculus doesn't not directly cause gingivitis but creates an area on which microorganisms will locate Her negligence and unawareness of oral health lead her to full mouth extraction at a such young age affecting her overall personality. Various concepts were proposed to understand the formation of calculus. Epitactic concept suggests the formation of hydroxyapatite crystals by seeding agents such as intercellular matrix of plaque. Moreover, pyrophosphates (inhibitor of calculus formation) at the calcification site are decreased. Another mechanism is the transformation of amorphous non crystalline deposits and brushite to octacalcium and

finally into hydroxyapatite. In this case, the patient was ignorant about her oral hygiene because of lack of education & motivation towards oral health and slowly by time her tooth started exfoliating, which eventually made her under confident about her personality and to overcome this she tried to keep this exfoliated calculus splinted teeth in the same position where they were anatomically present to maintain the esthetics. The patient having a dentist phobia prevented regular dentist visits. It is very important to diagnose the factors that cause calculus formation in early stages. For this reason, it has a great importance to evaluate the anatomical factors and the irregularities on the tooth and root surface from this point of view.

"Your tartar is your calcified hate. Not only the microflora in your oral cavity but also your muddled thoughts, your obstinate squinting backward, the way you regress when you mean to progress, in other words, the tendency of your diseased gums to form germ catching pockets, all that, the sum of dental picture and psyche, betrays you; it is stored up violence, full of murderous designs" [8]

Gunter Grass (1970)

4. CONCLUSION:

Some people's views and practices may have been influenced by superstitions about dental calculus, but it's important to distinguish fact from fantasy when it comes



to oral health. Dental calculus is not a supernatural power having ramifications for fortune or luck. Instead, it is a dental issue that is treatable with regular dentist visits and good oral hygiene habits. The treatment of such a case is the removal of the calculus-supported tooth, followed by motivation and counselling of the patient to achieve good oral hygiene. Knowledge regarding awareness of oral hygiene should be given at school, and community levels to avoid such cases in the future.

5. Clinical Significance-

Understanding the scientific basis for dental calculus enables people to make knowledgeable choices regarding their oral health, resulting in a radiant and healthy smile.

6. Conflict of interests-

The authors declare that there is no conflict of interest regarding the publication of this article.

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