VOLUME-7, ISSUE-1, JANUARY-2018 • PRINT ISSN No 2277 - 8160

Original Research Paper

Dental Science

GINGIVAL HYPERPLASIA MANAGEMENT IN PATIENT WITH ORTHODONTIC TREATMENT – A CASE REPORT

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ABSTRACT

Orthodontic treatment needs more than a year in an average to complete in straightening malalign teeth during this period proper oral hygiene maintenance required. During treatment improper oral hygeine maintenance leads to problem toward periodontal tissue. Fixed appliances that bonded to the teeth surface can cause difficulty in controlling the plaque especially in the marginal region that can cause the inflammation and gingival enlargement. Gingival enlargement due to the local irritation of the plaque can be treated with plaque control, scaling, root planing until surgery intervention. The aim of the treatment with surgical intervention for gingival enlargement is to eliminate the gingival pocket so the patient can easily clean the teeth and maintain the good oral hygiene status.

KEYWORDS : gingival hyperplasia, gingivectomy, orthodontic treatment

Introduction

Orthodontic care performed by fixed appliance or removable appliance sometime causing adverse effect on periodontal appliance directly or indirectly. Direct effect like mobile teeth, while the indirect effect like plaque making patient difficult to do plaque control because there is device attached to teeth. Study has suggested that the difficulties in plaque control after orthodontic devices can cause gingival enlargement, namely chronic inflammatory enlargement. Plaque control difficulties can make plaque accumulation in marginal gingiva then inflammation process occurred enlarging the gingiva. Patients unable to do proper plaque control so the plaque easily adhere and accumulate this also called plaque retention factors.[1,2] Several studies suggested correlation between gingivitis severity on puberty period.[3] Clinical features show swelling over the marginal gingiva with plaque and calculus on supra and subgingival, painfull and prone to bleeding especially every teeth brushing.

Cases a 18 years old boy reported to department of dentistory Shaheed Hasan Khan govt. Medical college with chief complaint of swelling, pain and bleeding gums on teeth brushing on the upper and lowe jaw. Patient had been under gone orthodontic treatment 1 year back and still used fixed appliance. When reported in the department, the general condition is healthy and cooperative both the patient and his parents. They wished that the patient's gum condition getting better . From history taking to the patient and his parents, known that the patient only brush his tooth in the morning and rarely in the afternoon, for 3 minutes duration, backward and forward movement over the upper and lower jaw as well as towards the back and front teeth. Swelling occured 3 months ago and did not aesthetically disturbing. At that time, the bleeding after teeth brushing only occured rarely and for certain time only. Pain was not felt yet, thus patient not bothered yet by the condition. Recently, patient really disturbed with the painful on teeth brushing and bad appearance of the gum, patient was afraid to brush his teeth properly because pain and fear of bleeding. At that time, patient already given antibiotic (Amox 500 mg), and anti-inflammatory drugs (ibuprofen 40 mg) 3 times a day. Scaling could not be performed because painfull in scaling trial especially over subgingival area. Patient was asked to come to clinic 7 days interval for 1 month. After 1 month gingivectomy and gingivoplasty procedure with surgical blade no. 15 were performed to upper jaw periodontal pack was released, the gingiva was still appeared reddish but satisfying result was shown. Patient was instructed to control again one week later.post operative instruction given to the patient - Backward and forward movement of the brush with short duration (+ 1-2 minutes) and brushing time was during shower and before breakfast, then dental health education was given and chlorhexidin mouth wash 2% twice a day. patient visited again 3 months later gingiva showed normal clinical appearance with no gingival pocket, normal gingiva colour, and no swelling was observed.

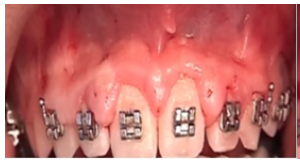

Fig.1 showing gingival enlargement

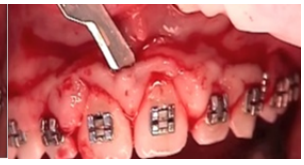

Fig.2 surgical incision placement

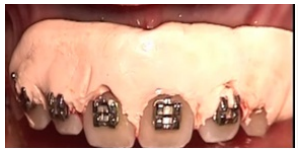

Fig.3 coe- pack placement done

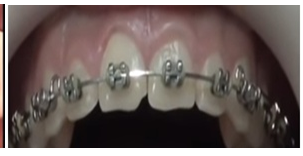

Fig.4 after three months

Discussion

In this case we found out the problem faced by the patient were complained of teeth brushing, bad appearance of gingiva, and foul breath. The complain of teeth brushing difficulty because of the pain and swollen gingiva occured that make the bad appearance of gingiva and plaque and calculus accumulation resulted on foul breath Based on history taking the tooth brushing method performed by backward and forward movement and only occured once a day and sometime twice a day, making the plaque quickly accumulated, in addition, the method and timing of teeth brushing after eat was not proper. From history taking, before fixed appliance was placed, he did the same method, but never causing gingiva inflammation. Fixed appliance indeed became one predisposing factor of the periodontal disease occurrence. Beside that the age of patient when controlled was 18 years old, considered as puberty age. On that age, there was hormonal changes especially the growth hormone that make little induction toward the gingiva could lead to inflammation. [1,3,4,5] At first visit, patient presented with gingival swelling almost covering the crown, especially on the upper jaw, hence patient had difficulty on teeth brushing, but after relieved by the antibiotics and anti-inflammatory drugs one week later patient was already able to brush his teeth again but with caution and few bleeding sometimes occurred Based on history taking, the method of oral and teeth hygiene was unproper, thus the plaque and calculus accumulated again and cause swollen gingiva. On the recent visit, he was given dental health education (DHE) and had follow up after one month. Better result was shown thereafter, then the gingivectomy was performed. It is already well recognized that orthodontic devices like fixed appliance will limit the patient to brush his teeth, thus allowing plaque accumulation and other deposits adhere to the teeth and device surfaces. Therefore, the prevention demands longer period of teeth brushing, proper method, and specialized tooth brush. Current studies have shown

that oral hygiene is strongly related to the gingiva inflammation and reversibility associated after scaling, curettage, and root planning interventions. [1,3,6,7]

Conclusion- Orthodontic treatment especially fixed appliance could cause plaque accumulation resulting from difficulty of the patient in plaque control leads togingiva inflammation. Intense with proper oral maintenance of periodontal tissue during the orthodontic treatment course significantly would optimize the outcome and preventing adverse events. Gingivectomy treatment performed in this case showed the magnitude importance of dental health education, because without proper education and oral – dental hygine after operation might lead to disappointing result with unexpected adverse events.

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