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Case Report

Gingival Hyperplasia a Sequalae of Orthodontic Therapy- A Case Report

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Abstract

Gingival enlargement, also relates with the terms gingival hyperplasia or hypertrophy, it can be defined as an abnormal excessive growth of gingival tissues. A case report of a female who was 22 years old approached the department of periodontology with maxillary and mandibular chronic inflammatory gingival enlargement associated with prolonged orthodontic therapy. To achieve satisfactory aesthetics surgical therapy was opted as choice of treatment. Before and after the surgical therapy the critical factors like patient motivation was considered important for better results of the treatment.

Keywords: Gingival Hyperplasia; Sequalae; Orthodontic Therapy

Introduction

Gingival enlargement, a widely accepted terminology for an increase in the size of the gingiva, gingival disease generally shows this feature. As multiple factors can be responsible for gingival enlargement it may also develop in response to various stimulus and interactions between environment and host. Enlargement can be of any nature either dependent of microbial deposits or may be associated with hormonal disbalance. Gingival enlargement can also be a manifestation associated with several hematological disorders, such as leukemia, thrombocytopenia etc. idiopathic gingival fibromatosis, a very rare variant of gingival enlargement has been found associated with familial inheritance. functional disturbances like altered speech, difficulty in mastication and aesthetic and psychological problems can be few of the problems associated with enlarged gingiva.

Acute phase or chronic phase are the two categories of inflammatory gingival enlargement, changes can be easily identified in case of chronic phase. Performing proper oral hygiene measure becomes difficult in cases with fixed prosthesis and in patients with fixed orthodontic appliances. These fixed prosthesis and appliances act as a retention areas for accumulation of debris and plaque which may further worsen the texture and consistency of the gingival tissues by inducing inflammatory changes which further progress towards periodontal pocket.

Outcome of almost every treatment depends on the patient cooperation i.e. maintaining healthy oral cavity, not missing recall visits, medications [1].

Medical history has to be recorded before proceeding towards the periodontal therapy to rule out any kind of risk factor.

Presenting here with a case of 22 year old female patient who was under orthodontic treatment for more than 1 year, presents with gingival enlargement associated with orthodontic treatment.

Case Report

Female patient who was 22 year old reported to the Department of Periodontology and implant ology, Seema Dental College and Hospital, Rishikesh, India. The patient complained of inflamed gums in her front tooth region. Increases in size of gingival tissues was noticed by the patient 4 - 5 months ago, she also revealed that the size has increased since she observed change for the first time. Presence of inflammatory component was their which the main cause for gingival inflammation was, bleeding from gums was also reported by the patient while brushing. Patient was under fixed orthodontic treatment for more than 1 year. The patient was diagnosed with psoriasis 6 years ago and was under medicines for the same, she was taking methotrexate on regular basis from last 6 years and erythromycin weekly to avoid any kind of secondary infection.

After the completion of orthodontic treatment, patient reported to the department of periodontics intraoral inspection revealed no orthodontic molar bands and brackets on any of the teeth. Intraoral examination reveals inflamed and enlarge marginal and papillary gingival tissues, with red appearance. Interdental papillary tissue between lateral incisor and canine of first quadrant was more prominent then others (Figure 1) gingival pigmentation was easily appreciated specially in the anterior region.

Blood investigations was performed which include complete blood count, Hb, BT, CT, blood sugar.

Treatment chart was planned, initially phase 1 periodontal therapy which includes scaling and root planning was done followed by phase 2 periodontal therapy i.e. external bevel gingivectomy. Patient was recalled after 24 hours post-operatively to observe any complications.

Oral hygiene instructions were given which includes chlorhexidine mouth rinse twice daily.

Results

Parameters measured through blood investigation comes out with a normal values.. An external bevel gingivectomy was performed for the maxillary sextant on the first surgical visit followed by placement of periodontal co-pack.

After one week patient was recalled and external bevel gingivectomy was performed on mandibular sextant.

Follow-up was scheduled after 1 month post-operatively. Intraoral examination was performed; satisfactory healing was assessed with no clinical signs of reoccurrence (Figure 5). Oral prophylaxis was performed once again to remove the inflammatory component i.e. plaque and re-enforcements of oral hygiene instructions was done.

Patient was wearing retainer as a part of post orthodontic therapy, so it was advised to the patient to remove the appliance while performing oral hygiene measures for proper and healthy oral cavity.

Figure 1

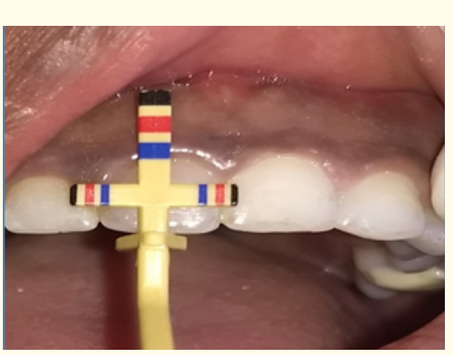

Figure 2

Figure 3

Figure 4

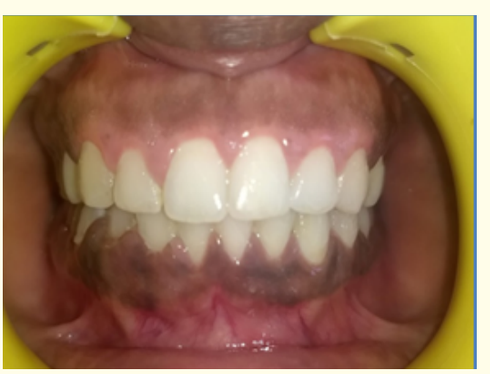

Figure 5

Discussion

Over-growth of gingival tissues, may vary from mild to moderate till severe forms, it can be localized or can be of generalized form depending upon the etiological factor [2].

Here, we report a case of gingival hyperplasia associated with orthodontic treatment. Enlargement of gingival tissues are mainly due to the microbial deposits i.e. plaque and calculus. Oral hygiene measures and professional prophylaxis is necessary to maintain normal form and function of the gingival tissues.

Current case report shows that enlargement of gingival tissues was not due to patient negligence in maintaining proper oral hygiene but it was due to the fixed appliances which were acting as

retention areas for accumulation of plaque, also acting as hindrance in maintaining healthy oral hygiene.

Patient education, motivation and compliance throughout the treatment plays an important role in maintaining healthy gingival tissues.

After removal of the fixed orthodontic appliance patient was able to perform better oral hygiene measures compared with when appliances were placed [3].

A study by Sallum., *et al.* showed that after removal of fixed orthodontic appliance and undergoing oral prophylaxis can revert back the gingival tissues to its healthy state.

Blood investigations was performed to rule out any kind of systemic disease or any allergy. Out of various studied which were conducted few have shown gingival enlargement due to allergic reaction caused from metal used in orthodontic appliances.

A study which has reported two cases of allergic reactions, i.e. mucosal hyperplasia which was nickel induced. Ozkaya was the person who conducted this study [4].

Gold and palladium can also cause rare form of allergic reactions in the oral mucosa [5]. Specific pattern of fibrous and thickened gingiva was seen in patient undergoing fixed orthodontic treatment, with inflammation and redness of the marginal tissues in some cases gingiva can be fragile also [6]. This type of fibrous enlargement requires specialized periodontal treatment, which suggests that the nature of such enlargement is not transitory [7].

Surgical therapy becomes treatment of choice when patient does not respond to the initial periodontal therapy, as the prime motive of any therapy is to restore the aesthetic and function

Conclusion

Orthodontic treatment causes hindrance in maintaining a proper oral hygiene, it can be a primary etiological factor for altered gingival and periodontal status in patient undergoing fixed orthodontic treatment. It becomes the dentist duty to motivate and educate the patient to perform oral hygiene measures regularly and efficiently. Outcome of periodontal therapy also depends on the patient co-operation and motivation to make oral cavity healthy. Certain risk factors like smoking, systemic diseases etc. can progress the pathological condition and worsen the situation. Effort of both dentist and patient towards maintaining a good oral hygiene plays a key role in success of treatment.

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