

Case Report

Importance of Supportive Periodontal Therapy in the Treatment of Inflammatory Gingival Overgrowth: A 12 Month Follow- Up

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Abstract: Gingival overgrowth, also synonymous with the terms gingival hyperplasia or hypertrophy, is defined as an abnormal overgrowth of gingival tissues. Gingival enlargement holds a unique position in the literature as it is seen associated with different local and systemic factors. These conditions generally respond well to conservative tissue management and plaque control is considered as corner stone in the management of such gingival overgrowths. The aim of reporting this case was to lay the importance of treatment for inflammatory gingival enlargement and its maintenance protocol that improve the esthetics and masticatory function of a patient.

Keywords: Inflammatory gingival enlargement, Aesthetics, chronic inflammation, modified widman flap

INTRODUCTION

Gingival overgrowth (OG) is a common finding in clinical practice and the suitable treatment depends on diagnosing the cause of the enlargement. The most common type of gingival overgrowth is mainly attributed to the plaque induced inflammation of the gingival tissues (inflammatory hyperplasia). The gingival overgrowth usually begins involving the interdental papillae and may be localized or generalized[1].

The etiology of gingival overgrowth is multifactorial and this condition develops in response to various stimuli and interactions between the host and the environment. It may be either plaque-induced or associated with hormonal disturbances. Some gingival enlargements can be exaggerated by hormonal effect, as in puberty or during pregnancy, and may also be complicated by the presence of certain systemic medications. It may also present as an oral manifestation associated with several blood dyscrasias[2]. These enlargements may lead to functional disturbances like altered speech, difficulty in mastication and aesthetic and psychological problems based on the extent and severity of the overgrowth[3].

Chronic inflammatory gingival enlargement begins as a slight ballooning of the interdental papilla and marginal gingiva and in later stages may involve the attached gingiva. Initially it presents as a life preserver-shaped bulge around the involved teeth. Progressively this bulge may increase in size until it covers the clinically visible crowns. The extent may be either generalized or localized. Interproximally, the overgrowth presents as a discrete sessile or pedunculated mass resembling a tumor. The lesions are slow progressing masses that are usually painless and may undergo spontaneous reduction in size, followed by exacerbation and continued enlargement. Painful ulceration sometimes occurs in the fold between the adjacent gingiva and the mass. The potential risk factors include poor oral hygiene [4] as well as irritation of the gingiva by improper restorative and orthodontic appliances[5].

This scenario requires a more detailed evaluation and a extended treatment plan to map the level of gingival and possible periodontal involvement. Surgical management of the enlarged tissue and improved access for the patient's oral hygiene may be required.

This case report depicts a case of chronic inflammatory gingival enlargement and its management strategy. These enlargements are often associated with a long-standing bacterial plaque accumulation. Regular professional oral prophylaxis and good patient compliance is mandatory in the management of such cases.

CASE REPORT

A 38 year old female patient reported to the Department of Periodontology, Rajarajeswari Dental College and Hospital, Bangalore with the chief complain of a swollen gum in relation to the upper and lower teeth region since 6months.

Patient also complained of bleeding gums on slight provocation, difficulty in chewing and concern for the aesthetics. Past medical and dental history was non- contributory. No history of drug intake that could contribute to gingival overgrowth was observed.

Intra-oral examination revealed the presence of generalized severe gingivitis with grade II gingival overgrowth (Bokenkamp, 1994), and the gingiva was retractable with spontaneous bleeding on probing. She had Oral Hygiene Index-simplified (OHI-s) Score of 2.6 and Plaque Index (PI) of 2.6 and probing depth of more than 7 mm in allregions. [Fig: 1, 2]



Fig-1: Pre-Operative



Fig-2: Preoperative Probing

The orthopantomograph showed uniform horizontal bone loss involving the maxillary teeth with 60% of remaining supporting alveolar bone, with vertical bone loss irt 15 & 16. While in the mandible, vertical type of defects were seen irt 46, 47, 36 and 36,

other areas showed crestal bone loss[Fig: 3]. Patient's routine hemogram consisting of RBC, WBC and platelet counts, ESR, bleeding time, clotting time, prothrombin time) and hormonal investigations revealed to be within normal range. From this clinical and radiographic examination a diagnosis of inflammatory gingival enlargement was made.

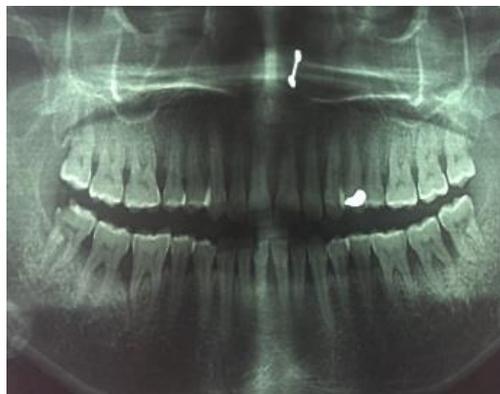


Fig-3: Orthopantomograph

The treatment plan involved initial periodontal therapy comprising of supragingival and sub gingival scaling was performed. Oral hygiene instructions were given and the use of chlorhexidine mouthwash 0.2% 10ml twice a day for 4week was advised. As these measures failed to resolve the overgrowth to a satisfactory level when recalled at 4th week, surgical therapy was considered, modified widman flap was planned under local anesthesia to reduce the thickness of the tissues and to improve the esthetics and functional outcome. The thinning of the flap was done with the initial internal bevel incision starting from 2mm of crest of gingival margin, sulcularincision and thewedge of tissue was removed using the curette [Fig: 4].The flap was reflected with a periosteal elevator [Fig: 5]. After debridement the intrabony defects irt 15, 16 and 17 was filled with Perioglas @synthetic bone graft and flap was sutured back with interrupted suture technique and pack placed [Fig: 6, 7].



Fig-4: Internal bevel incision given



Fig-5: Flap reflection



Fig-8: Post-operative at 3 months



Fig-6: Perioglas ® synthetic bone graft placed



Fig-9: Post-operative at 12 months



Fig-7: Single interrupted sutures placed

Post-operative care

Post-operatively the patient was instructed to take analgesics and antibiotics (Amoxicillin 500mg thrice a day for 5 days). The patient was recalled for suture removal on 7th post-operative day. The same surgical procedure was carried out for the other quadrants. Healing was uneventful. Patient was kept under regular follow up and oral hygiene instructions were reinforced at every appointment. The patient was followed up at regular intervals with clinical and radiographic examination at 3 [Fig:8], 6 & 12 [Fig:9] months. No evidence of recurrence was noticed.

DISCUSSION

The extent of gingival overgrowth differs from mild enlargement involving isolated interdental papillae to segmental and marked enlargement affecting either of the jaws with varied etiopathogenesis [6]. Without much of significance given to the definition or specificity, the terms "hypertrophy" and "Hyperplasia" have been used in the literature interchangeably for decades. In fact, "gingival hypertrophy" as a pathological entity probably does not exist [7]. In these cases due to the prolonged exposure of bacteria, the gingiva clinically presents as soft, edematous and enlarged which when treated with conventional periodontal therapy such as scaling and root planing will result in the resolution of inflammatory condition. Situations in which fibrotic components persist, surgical therapy is advocated to obtain a more physiologic form of gingiva [8].

Inflammatory enlargement caused by local factors is self-perpetuating since it is often impossible to properly clean the "pseudo pockets" which are formed by bulging tissue. Halitosis may follow as the food debris may undergo degradation by the accumulating microorganisms. While local etiologic factors are almost always present in cases of inflammatory type gingival enlargement, there are also several important systemic factors which may contribute to the problem and compromise the success of therapy directed at elimination of focal irritants [9].

In the present case report inflammatory enlargement was present in relation to both maxillary and mandibular anterior teeth region causing esthetics

and phonetics problem in the patient. After non-surgical therapy there was resolution of the inflammation in relation to the lower anterior teeth whereas maxillary anterior teeth showed no resolution and fibrotic component was present which was then corrected by surgical therapy. For the present case, modified widman flap under local anesthesia was done in both maxillary and mandibular arches to provide a thin gingival margin, reduces the bulk and allow for better adaptation of the tissues. Healing was uneventful and patient was satisfied.

According to Merin's classification, based on the amount of remaining bone, the furcation involvement and patient's compliance; the patient was categorized as Class C and the patient was recalled every month for the 1st three months and later every 3 months thereafter. Oral hygiene instructions were reinforced along with the modified Bass brushing technique using medium bristled toothbrush during every visit for the first three months. During each visits thorough intraoral examination was done and supra gingival scaling was performed.

CONCLUSION:

The local factors i.e. plaque and calculus are known to be responsible for gingival enlargement. Therefore, the importance of supportive periodontal therapy in the form of regular check-up and oral prophylaxis cannot be ignored.

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