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Case Report

Chronic Inflammatory Gingival Enlargement: A Case Report

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Abstract

Gingival enlargement also known as gingival overgrowth is defined as increase in the size of gingiva. Gingival enlargement can be caused by a wide variety of etiologies. Gingival enlargement may result from acute or chronic inflammatory changes; chronic changes are much more common. Chronic inflammatory gingival enlargement (CIGE) is caused by prolonged exposure to dental plaque. Plaque-induced inflammation can be the sole cause of gingival enlargement or can be the secondary cause. Gingival enlargement can be a functional and esthetic disparity so in all patients therapy to control gingival enlargement is essential. This report aims to highlight the importance of patient motivation and patient compliance in treatment planning of CIGE.

Key words: Chronic inflammatory enlargement, Gingival disease, Gingival enlargement

INTRODUCTION

Gingival enlargement, a common feature of gingival diseases, is defined as an increase in the size of the gingiva. Gingival overgrowth varies from mild enlargement of isolated interdental papilla to segmental or uniform and marked enlargements affecting one or both the jaws with diverse etiopathogenesis.[1] It is a multifactorial condition that develops as interactions between host and environment or in response to various stimuli.[2] It may be plaque-induced or associated with systemic hormonal disturbances. It also occurs as a manifestation associated with several blood dyscrasias such as leukemia and thrombocytopenia. Based on the extent and severity, these enlargements may lead to functional disturbances such as altered speech, difficulty in mastication, and esthetic and psychological problems.[1] Inglés *et al.* summarized different methods and presented their clinical index to measure the degree of gingival enlargements.[3]

Inflammatory gingival enlargement may be categorized as acute or chronic; wherein chronic changes are much more common.[4] Chronic inflammatory gingival enlargement (CIGE) is caused by prolonged exposure to plaque accumulation. Plaque-induced inflammatory gingival enlargements resolve with debridement of plaque and calculus and improved oral hygiene, where the gingival tissue is fibrotic resolution may not occur, resulting in persistence of periodontal pocket such that oral hygiene is impeded.[5] This may lead to more inflammation and further plaque accumulation perpetuating this vicious cycle.

The therapeutic approaches related to gingival enlargement are based on the underlying etiology and the subsequent changes it manifests on the tissues. The prime treatment modalities involve obtaining a detailed medical history and nonsurgical periodontal therapy, followed by surgical excision to retain esthetical, and functional demands.

This case report presents a clinical presentation and treatment of CIGE.

CASE REPORT

A 25-year-old female reported to the Department of Periodontics of Nair Hospital Dental College, Mumbai, with a chief complaint of swollen gums, bleeding from gums, and bad breath.

The patient complained of swelling of the upper and lower gums. The patient had noticed the swelling 2 years prior and

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reported that it had increased in size since then. She also complained of bleeding from the gums while brushing and bad breath. She also complained of spacing between upper front teeth which increased gradually to present state. There was no other relevant medical, dental, or family history.

On clinical examination, marginal and papillary and attached gingiva appeared red and enlarged in the maxillary and mandibular arches, which were more prominent in the labial and buccal aspect as compared to palatal and lingual aspect. Gingiva appeared to friable and soft with smooth and shiny surface [Figure 1]. Further assessment revealed pathologic migration between 11 and 21, bleeding on probing on all teeth, and generalized pockets.

A treatment plan consisted of initial periodontal therapy followed by a curettage procedure which was followed by surgical therapy to improve esthetics and function. The initial periodontal therapy comprising supragingival and subgingival scaling was performed quadrant wise. Oral hygiene instructions were given and the use of chlorhexidine mouthwash (hexidine) twice a day for 1 week was advised. At the next visit, the gingival enlargement showed a slight reduction in size. Full mouth intraoral periapical radiographs were taken and hematological investigations were carried out which included complete blood count, bleeding time, and clotting time.

IOPA showed generalized horizontal bone loss and blood investigations were noncontributory. At next visit, quadrant wise curettage was performed. Oral hygiene instructions were reinforced and the patient was recalled after 15 days. At next visit, there was a considerable reduction in gingival enlargement, but the tissues appeared to be firm in consistency [Figure 2].

Sextant wise internal bevel gingivectomy was performed. Thinning of the flap was done with initial incision. The flap was reflected with periosteal elevator. Complete debridement was done. The flap was sutured back and periodontal pack was placed. Antibiotics and analgesics were prescribed. The excised tissue was sent for the histopathological examination.

Microscopic examination revealed hyperparakeratinized stratified squamous epithelium. The underlying dense fibrous connective tissue stroma showed severe chronic inflammatory cell infiltrate consisting of lymphocytes and plasma cells and a moderate number of endothelial-lined blood vessels suggestive of chronic inflammatory fibrous hyperplasia.[6] A histopathological diagnosis suggestive of inflammatory fibrous hyperplasia was given.

Figure 1: Pre-operative

Figure 2: Post-curettage

Figure 3: Post surgery

1 month later, the patient reported back to the clinic. Intraoral examination revealed that the surgical site had healed satisfactorily [Figure 3]. Oral hygiene instructions were reinforced. The patient was also counseled regarding

the importance of follow-up and maintenance with special emphasis on motivation. The patient was followed next 6 months at an interval of 1 month.

DISCUSSION

Chronic inflammatory changes are common cause of gingival enlargement. CIGE is caused by prolonged exposure to dental plaque.

Factors that favor plaque accumulation and retention include poor oral hygiene, abnormal relationships of adjacent/opposing teeth, lack of tooth function, improper restorations, orthodontic therapy, and habits. Treatment of gingival enlargement is based on an understanding of the cause of the enlargement and the underlying pathologic changes.

Here, we report a case of CIGE. These enlargements are often associated with a long-standing bacterial plaque accumulation. Regular professional oral prophylaxis and good patient compliance are required in the management of such cases.

Enlargement resulting from inflammation alone can be treated successfully with local procedures and fastidious oral hygiene prevents recurrence. CIGE, which is soft and discolored and is caused principally by edema and cellular infiltration is treated by scaling and curettage procedures provided the size does not interfere in complete removal of deposits.

Chronic inflammatory enlargement which includes a significant fibrotic component surgical removal is the treatment of choice. Two techniques - gingivectomy and flap operation.

Recurrence after treatment is a most common problem. Recurrence of CIGE: (a) After treatment immediately - incomplete removal of irritants, (b) after healing - inadequate plaque control by the patient most common cause.

One of the most important determinants of treatment outcomes is patient compliance. The willingness to perform adequate oral hygiene measures and receive timely periodic recalls and treatment is essential for a successful outcome.

CONCLUSION

CIGE in our case was due to poor oral hygiene as there was more of inflammatory component there was drastic reduction in enlargement after SRP and curettage, and the residual was corrected by internal bevel gingivectomy surgery.

Thus, understanding cause and pathogenesis and planning treatment based on it is important.[7]

This report helps to highlight the importance of patient motivation and patient compliance in treatment planning. Oral hygiene education supplemented with positive motivation should be started at the initial stages of the treatment strategy to obtain predictable outcomes.

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