

## Inflammatory Gingival Enlargement - A Case Report

Nitin Tomar<sup>1</sup>, Gazal Jain<sup>2</sup>, Anamika Sharma<sup>3</sup>, Amit Wadhawan<sup>4</sup>

<sup>1,4</sup>Reader, <sup>2</sup>PG Student, <sup>3</sup>Professor and Head of Department, Subharti Dental College

**\*Corresponding Author:**

E-mail: drnitintomar@gmail.com

### ABSTRACT

**Background & objectives:** *Chronic inflammatory gingival enlargement also called as chronic hyperplastic gingivitis is an enlargement of the gingiva as a result of chronic inflammation due to local or systemic factors, most important local factor appears to be the dental plaque and calculus. The aim of publishing this case report is to present the clinical, histopathological features and treatment of inflammatory gingival enlargement which disturbed the aesthetics and masticatory function of the patient.*

**Methods:** *A 23 year old female patient reported with a chief complaint of swelling in the gums of teeth in lower front region. The enlargement was firm and fibrotic accompanied by an inflammatory component probably due to inability to maintain adequate personal oral hygiene. Surgical therapy was carried out to provide a good aesthetic outcome.*

**Results and interpretation:** *No recurrence was reported at the end of 2 months. The importance of patient motivation and compliance during and after therapy as a critical factor in the success of treatment has also been highlighted through this case report. Conclusion Gingival overgrowth is disfiguring, and can interfere in mastication and speech; hence a thorough understanding of the pathogenesis is essential.*

**Keywords:** *Inflammatory, Hyperplastic, Fibrotic gingival enlargement, Local factors*

### INTRODUCTION

Oral mucosa is constantly subjected to external and internal stimuli and therefore manifests a spectrum of diseases that range from developmental, reactive, inflammatory to neoplastic.<sup>1</sup> The most frequently encountered oral mucosal lesions in humans are the reactive hyperplastic lesions.<sup>2</sup> These lesions represent a reaction to some kind of irritation or low-grade injury like calculus, chewing, fractured teeth, lodged food, overextended dentures flanges and overhanging restorations.<sup>3</sup>

Gingival enlargement a common feature of gingival disease which can be caused by gingival inflammation, fibrous overgrowth, or a combination of the two.<sup>4</sup> It is a multifactorial condition that develops as interactions between the host and the environment or in response to various stimuli. It may be plaque-induced, associated with systemic hormonal disturbances or occur as a manifestation associated with several blood dyscrasias, such as leukemia, thrombocytopenia or thrombocytopenia.<sup>5</sup> These enlargements may lead to functional disturbances like difficulty in mastication, altered speech, aesthetic and psychological problems.<sup>6</sup>

Classification of gingival enlargement is based on the degree of overgrowth as: Grade 0: No signs of gingival enlargement; Grade I: Enlargement confined to interdental papilla; Grade II: Enlargement involving interdental papilla and the marginal gingiva; and Grade III: Enlargement covering three-quarters or more of the crown.<sup>7</sup> The most common form of enlargement is inflammatory hyperplasia which is due to plaque induced inflammation of the gingival tissues. It can be localized or generalized, or

can be exaggerated by hormonal effects, as seen in puberty or pregnancy, or may be complicated by certain systemic medications.<sup>8</sup>

### CASE REPORT

A 23 year old female patient reported to the Department of Periodontology, Subharti Dental College and Hospital, Meerut with a chief complaint of swelling in the gums of teeth in lower front region. Local factors, like plaque and calculus were present. The gingiva seemed to be markedly enlarged - Grade III gingival enlargement. The enlargement was diffuse, soggy in appearance and fibrotic accompanied by an inflammatory component with probing depth of more than 5 mm and generalized gingival bleeding on probing (Fig 1). There was no drug or systemic history reported. Also, there was no familial history present. Differential diagnosis includes drug induced gingival enlargement.

On the first visit, oral hygiene instructions were given after scaling and polishing. After phase I therapy, the patient was recalled. A written consent was obtained before surgical procedure. On the basis of amount of tissue present after phase 1 therapy, a decision is made for the treatment by either external bevel or internal bevel gingivectomy. So, in this case, external bevel gingivectomy was performed after marking the bleeding points (Fig 2-3). Residual plaque and calculus was removed and thorough root planing was done. Periodontal dressing was given and the excised tissue was sent for histopathological examination (Fig 4). Haematoxylin and eosin staining showed parakeratinized hyperplastic stratified squamous epithelium with underlying fibro

cellular connective tissue showing diffusely spread increased chronic inflammatory infiltrate mainly composed of plasma cells and lymphocytes with numerous blood vessels. The features were suggestive of inflammatory fibro epithelial hyperplasia. The patient was given antibiotic and anti-inflammatory drugs TDS for 5 days, and chlorhexidine mouthwash twice daily for 3 weeks. Post-operative oral hygiene instructions were given and the patient was recalled after 10 days for reinforcement of oral hygiene. Patient was recalled at frequent intervals for the next 2 months which showed uneventful healing (Fig 5).



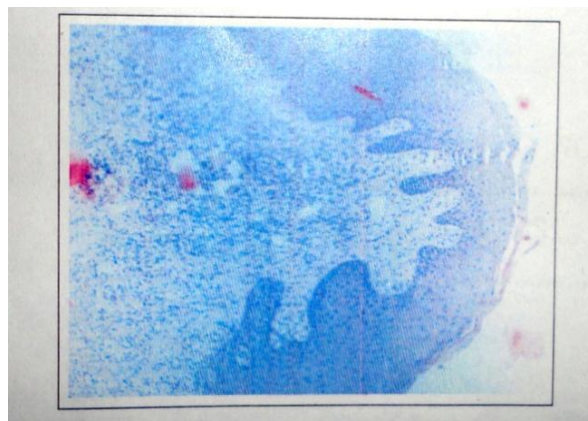
**Fig 1: Pre-operative intraoral photograph**



**Fig 2: Bleeding points marked**



**Fig 3: Immediate post operative photograph**



**Fig 4: Histopathological photograph**



**Fig 5: 2 months post operative photograph**

## DISCUSSION

Gingival overgrowth varies from mild enlargement of isolated interdental papillae to uniform marked enlargement affecting either one or both the jaws.<sup>9</sup> Enlargements are a common clinical finding mostly represent a reactive hyperplasia which is a result of plaque-related inflammatory gingival disease.<sup>10</sup> These are the disorders of the fibrous connective tissue layer of the oral mucosa, which proliferates due to continuous stimulation and chronic irritation. This is caused due to tissue edema and infective cellular infiltration as a result of long standing bacterial plaque, which are treated with conventional periodontal therapy, such as scaling and root planing.<sup>11</sup> When chronic inflammatory gingival enlargements with a significant fibrotic component does not resolve completely after initial periodontal therapy or does not meet the aesthetic demands of the patient, surgical removal is the only treatment of choice. The most widely employed surgical approaches for the treatment of gingival enlargements is gingivectomy, flap technique by laser, electrocautery or conventional means.<sup>6</sup> In the present case report chronic inflammatory gingival enlargement was present in relation to mandibular front tooth region causing esthetics problem in the

patient. After non-surgical therapy, resolution of the inflammatory component was noticed, with the persistence of the fibrotic component which was then managed by surgical therapy.

## CONCLUSION

Gingival overgrowth is disfiguring, and can interfere in mastication and speech; hence a thorough understanding of the pathogenesis is essential. The local factors, dental plaque and calculus are responsible for gingival enlargement. In the present case report, size of the hyperplastic tissue was the main cause of esthetic problems to the patient therefore excised completely. This case report highlights the importance of patient motivation and compliance in treatment planning.

## REFERENCES

1. Effiom OA, Adeyemo WL, Soyele OO. Focal reactive lesions of the gingival: An analysis of 314 cases at tertiary health institution in Nigeria. *Niger Med J* 2011;52:35-40.
2. Nartey NO, Mosadomr HA, Al-Cailani M, Al Mobeerik A. Localised inflammatory hyperplasia of the oral cavity: Clinico-pathological study of 164 cases. *Saudi Dent J* 1994;6:145-50.
3. Zarei MR, Chamani G, Amanpoor S. Reactive hyperplasia of the oral cavity in Kerman Province, Iran: A review of 172 cases. *Br J Oral Maxillofac Surg* 2007;45:288-92.
4. Trackman P, Kantarci A. Connective tissue metabolism and gingival overgrowth. *Crit Rev Oral Bio Med* 2004;15:165-175.
5. Carranza FA, Hogan EL. Gingival enlargement. In: Newman MG, Takei HH, Klokkevold PR, Carranza FA. *Carranza's Clinical Periodontology*. 11th ed. Philadelphia, Penn: W.B. Saunders Company; 2006:373–390.
6. Jhadhav T, Bhat KM, Bhat GS, Varghese JM. Chronic Inflammatory Gingival Enlargement Associated with Orthodontic Therapy – A Case Report. *J Dent Hyg*.2013;87(1):19-23.
7. Inglés E, Rossmann JA, Caffesse RG. New clinical index for drug induced gingival overgrowth. *Quintessence Int* 1999;30:467-73.
8. Seymour RA. Effects of medications on the periodontal tissues in health and disease. *Periodontol* 2000 2006;40:120–129.
9. Tiwana PS, Kok IJ, Stoker DS, Cooper LF. Facial distortion secondary to idiopathic gingival hyperplasia: surgical management and oral reconstruction with endosseous implants. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2005;100(2):153–157.
10. Agrawal N, Agrawal K, Mhaske S. An uncommon presentation of an inflammatory gingival enlargement responding to non-surgical periodontal therapy. *Int J Dent Hyg*2011;9:303–307.
11. Buddiga V, Ramagoni NK, Mahantesh H. Gingival enlargement - A case series. *Ann Essence Dent* 2012;1:73-76.