



MULTIDISCIPLINARY MANAGEMENT OF SEVERE GENERALIZED INFLAMMATORY GINGIVAL HYPERPLASIA: A CASE REPORT

Periodontology

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ABSTRACT

Gingival hyperplasia, an overgrowth of the gingival tissues, can cause significant functional and aesthetic problems. This report details the case of a 17-year-old female who presented with severe, progressive gingival swelling that impeded her ability to eat and caused significant aesthetic concern. Clinical and histopathological analysis confirmed a diagnosis of severe inflammatory gingival hyperplasia. A comprehensive, multidisciplinary treatment plan was executed, beginning with non-surgical periodontal therapy to control inflammation. This was followed by a staged surgical gingivectomy and gingivoplasty to remove the excess tissue and restore normal gingival architecture. Several teeth with a poor prognosis were extracted, and the final phase involved prosthetic rehabilitation with a removable partial denture. The patient showed excellent healing and was highly satisfied with the functional and aesthetic outcome at the 6-month follow-up, with no signs of recurrence. The successful management of such cases requires a structured, multidisciplinary approach to effectively restore oral function, aesthetics, and significantly improve the patient's quality of life.

KEYWORDS

Gingival Hyperplasia, Gingivectomy, Multidisciplinary Approach, Case Report.

1. INTRODUCTION

Gingival enlargement, or hyperplasia, is a common clinical finding characterized by an increase in the size of the gingiva. The etiology is diverse and can be categorized as inflammatory, drug-induced, systemic, or hereditary (Hassell, 1981). Inflammatory enlargement, the most prevalent form, is a response to chronic irritation from local factors like bacterial plaque and calculus. Persistent inflammation can trigger a proliferative response in the gingival connective tissue, resulting in a firm, fibrotic overgrowth (Camargo & Melnick, 2013).

Severe cases can obscure the teeth, creating deep pseudo-pockets that harbor bacteria and complicate oral hygiene, thus perpetuating a cycle of inflammation. This can profoundly affect function, phonetics, and aesthetics, negatively impacting a patient's self-esteem and quality of life. This report details the successful multidisciplinary management of a severe case of inflammatory gingival hyperplasia in a young female patient.

2. Case Presentation

A 17-year-old female patient reported to the Government Dental College & Hospital, Ahmedabad, with a chief complaint of progressively worsening "swelling in the gums" of both jaws since 8 months. The patient's medical history was non-contributory, and she was not on any medication associated with gingival overgrowth.

2.1. Clinical Findings

Extraoral examination revealed an asymmetrical face with incompetent lips (Figure 1A, 1B). Intraoral examination revealed a severe, generalized, and diffuse gingival enlargement involving the facial and lingual/palatal aspects of both arches. The tissue was firm, fibrotic, pale pink, and lobulated, covering nearly all clinical crowns. Patches of physiological melanin pigmentation were noted on the maxillary gingiva. The overgrowth created deep pseudo-pockets, and significant plaque and calculus deposits were present (Figure 1C, 1D).

2.2. Investigations

Hematological tests were within normal limits, aside from a slightly elevated Erythrocyte Sedimentation Rate (ESR) of 32 mm/hr, indicative of chronic inflammation. An incisional biopsy was performed, and histopathological examination revealed hyperplastic parakeratinized stratified squamous epithelium overlying a dense,

fibrous connective tissue with a diffuse chronic inflammatory cell infiltrate. These findings confirmed the diagnosis of **Severe Generalized Inflammatory Gingival Hyperplasia** (Figure 1E).

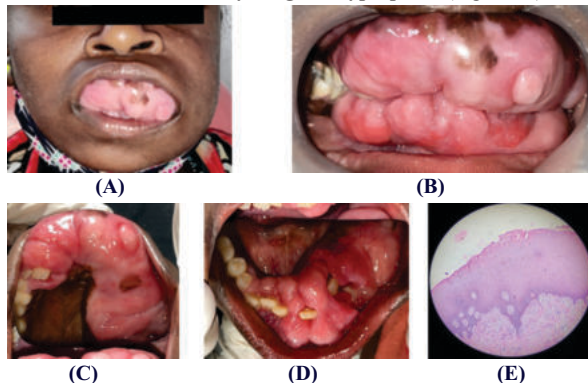


Figure 1: Pre-operative Assessment

(A) Frontal view of the patient. (B) Close-up of facial profile. (C) Intraoral view showing massive gingival overgrowth covering the teeth. (D) Lateral view showing the extent of the hyperplasia. (E) Histopathological slide (H&E stain) confirming inflammatory hyperplasia.

3. Treatment And Management

A phased, multidisciplinary treatment plan was implemented.

Phase I: Non-Surgical Therapy

The initial treatment consisted of full-mouth scaling and root planing and comprehensive oral hygiene instructions. After four weeks, while some reduction in superficial inflammation was observed, the fibrotic enlargement persisted, confirming the need for surgical intervention.

Phase II: Surgical Therapy

Under local anesthesia, a staged surgical approach was undertaken. An external bevel gingivectomy was performed using a conventional scalpel technique to excise the bulk of the hyperplastic tissue (Figure 2A, 2B). This was followed by gingivoplasty to re-establish a

physiological gingival contour. After removing the tissue, several teeth were found to have a hopeless prognosis due to extensive attachment loss and were extracted. The palatal surgical site was closed with 3-0 silk sutures to ensure hemostasis and promote healing (Figure 2C).

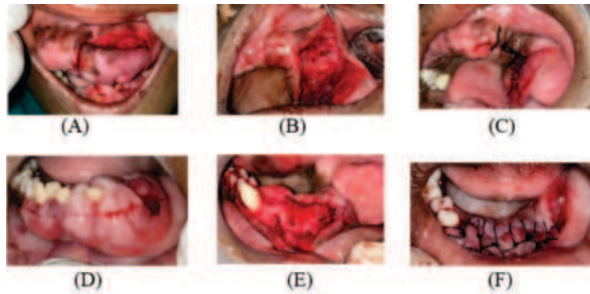


Figure 2: Surgical Intervention

(A) Incision for gingivectomy on the maxillary arch (B) Intra-operative view after excision of palatal tissue (C) sutures (D) Incision for gingivectomy on the mandibular arch (E) Intra operative view after excision (F) sutures.

Phase III: Prosthetic Rehabilitation

Following an adequate healing period, the patient was referred for prosthetic rehabilitation. A removable partial denture was fabricated for the maxillary arch to replace the extracted teeth, thereby restoring masticatory function and providing an aesthetic smile.

4. Outcome And Follow-up

The patient was recalled for regular follow-ups. Healing was uneventful. At the 6-month follow-up, the gingival tissues appeared healthy, firm, and well-contoured, with no signs of recurrence. The patient was able to maintain good oral hygiene and was extremely pleased with the dramatic improvement in her appearance and ability to function (Figure 3A, 3B).

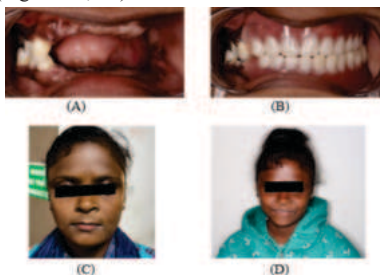


Figure 3: Post-operative Outcome (6-Month Follow-up)

(A) Final intraoral view showing healthy, well-contoured gingiva (B) the maxillary and mandibular removable partial denture in place. (C) Final post-operative frontal view of the patient, (D) demonstrating a restored, confident smile.

5. DISCUSSION

This case illustrates a classic presentation of severe inflammatory gingival hyperplasia where local factors were the primary etiology. The diagnosis was confirmed by a combination of clinical examination and histopathology, effectively ruling out drug-induced or systemic causes (Dongari-Bagtzoglou, 2004; Hart et al., 2000).

The treatment protocol adhered to a standard of care, beginning with a non-surgical phase to reduce inflammation and improve tissue handling during surgery (Newman et al., 2019). However, the dense, fibrotic nature of the tissue necessitated surgical excision. The external bevel gingivectomy remains the gold standard for such cases, as it not only removes the excess tissue but also allows for the re-creation of a physiological gingival architecture, which is crucial for long-term maintenance (Grant et al., 1979).

A key aspect of this case was the need for a multidisciplinary approach. The periodontal surgery revealed the true extent of the underlying damage, leading to necessary extractions. The subsequent prosthetic phase was indispensable for achieving a successful final outcome, restoring both function and aesthetics. Without this comprehensive planning, the treatment would have been incomplete.

The long-term stability of the result is contingent upon the patient's ability to maintain meticulous oral hygiene. Recurrence is a known risk if plaque control is not sustained (Pihlstrom et al., 1983). Therefore, regular follow-up and reinforcement of oral hygiene practices are essential components of the overall management strategy.

6. CONCLUSION

The successful management of severe generalized inflammatory gingival hyperplasia requires a thorough diagnostic workup and a well-structured, multidisciplinary treatment plan. By integrating non-surgical therapy, periodontal surgery, and prosthetic rehabilitation, it is possible to eliminate pathology, restore oral function, and achieve an excellent aesthetic result, thereby significantly enhancing the patient's quality of life.

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