

Gingivectomy Reimagined: From Diagnosis To Healing

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ABSTRACT:

Background: The aim of this report was to describe the management of gingivectomy (Plaque – induced gingival enlargement). **Methods:** A 55year-old female was referred to the department of periodontology with the chief-complaint of gum swelling for the past few days, pain while eating and drinking, halitosis is also present for the past few weeks An intraoral assessment showed generalized probing pocket depth of more than 5mm and mobility in upper and lower anteriors. Radiographic examination showed generalize horizontal bone loss is seen. Surgical gingivectomy and regenerative treatment was advised for the patient. **Results:** The treatment was done using a scalpel – 15 Size for surgical gingivectomy and improvement were shown after 1 month of review. **Conclusion:** Gingivectomy is a common case but need to be treated for preventing from further destruction. Rather than laser will go for surgical gingivectomy for better post-operative wound healing. However, the right diagnosis, appropriate treatment planning, good multidisciplinary collaboration supported by patient cooperation can guarantee the success of treatment.

INTRODUCTION:

Gingival enlargement (GE) is defined as an abnormal overgrowth of gingival tissues. Under this category, we will discuss about Plaque-induced gingival enlargement which is an abnormal overgrowth of the gingival tissues resulting from chronic inflammatory changes induced by dental plaque accumulation. ⁽¹⁾ It is classified under inflammatory gingival enlargement and is a common sequela of poor oral hygiene and persistent plaque retention. A majority of oral mucosal lesions that affect people are reactive in origin. As a result of a reaction to a low-grade injury, irritation, calculus, or prosthetic appliances or restorations that were incorrectly shaped and created, these lesions are known as reactive lesions ⁽²⁾ This can cause further inflammation and plaque build-up, continuing the vicious cycle. Inflammatory gingival enlargements caused by plaque may not resolve if the gingival tissue is fibrotic, leading to the persistence of the periodontal pocket and making it challenging to maintain proper oral hygiene. Functional issues including trouble chewing, impaired speech, and aesthetics are brought on by these enlargements.

In 1987, Mc GAW Et Al., graded gingival overgrowth ⁽³⁾

- ✓ Grade 0: No overgrowth, feather-edged gingival margin,
- ✓ Grade 1: Blunting of gingival margin,
- ✓ Grade 2: Moderate gingival overgrowth (one-third of crown length),
- ✓ Grade 3: Marked gingival overgrowth (more than one third of the crown).

This overgrowth was later enhanced by Broken kamp et al., in 1994 graded gingival over growth:

- ✓ Grade 0: No sign of enlargement,
- ✓ Grade 1: Enlargement confined to interdental papilla,

- ✓ Grade 2: Enlargement involving interdental papilla and marginal gingiva,
- ✓ Grade 3: Enlargement covering three-quarters of the crown of the tooth or more.

The underlying causes of gingival enlargement and the subsequent changes they cause in the tissues are the basis for the treatment strategies used to treat it. ⁽⁴⁾The main modes of treatment include compiling a thorough medical history, non-invasive periodontal therapy, and surgical excision to maintain aesthetic and functional requirements.

This case report depicts a case of chronic plaque-induced gingival enlargement and its management strategy. These enlargements often correspond to an ongoing bacterial plaque buildup. Regular professional oral prophylaxis and good patient compliance are mandatory in the management of such cases.

CASE REPORT:

A 55-year-old female patient reported to the Department of Periodontics and Implant logy, at RVS Dental College and Hospital, Coimbatore, with a chief complaint of swollen gums in both upper and lower front and back teeth region with difficulty in eating & drinking, also halitosis is present for the past few months. The patient also reported bleeding gums while brushing. On intra-oral examination painless, Grade III type of Gingival enlargement was found (Boken kamp, 1994). Gingival examination reveals erythematous marginal and papillary gingiva with soft and edematous consistency in the maxillary and mandibular arches, with the labial and buccal aspects being more noticeable than the palatal and lingual regions.



Fig.1: Plaque-induced gingival enlargement seen in maxillary and mandibular arch.

The gingiva appeared friable and soft with a smooth and shiny surface, loss of stippling, and obliterated contour. There was the presence of false pockets (pseudo pockets). Some regions showed signs of ongoing acute inflammation.



Fig.2: Probing pocket depths has been checked (>5mm)-Pseudo pockets and curettage done in all quadrants after 2weeks of oral prophylaxis.

On the basis of medical history and intra-oral examination, a provisional diagnosis of Chronic inflammatory gingival enlargement was made. Orthopantomogram & IOPA (Intra-oralperiapical radiograph) results showed generalized horizontal bone deficiencies is seen and complete hemogram readings were within the normal range but Vitamin-D level is less (<10ng/dl).

TREATMENT DONE:

Non-surgical periodontal therapy was initiated. Complete Ultrasonic Scaling was done on both arches. After 2 weeks, there was some amount of resolution of Gingival Enlargement with no bleeding on probing. So, root surface debridement was planned. Under local anesthesia (2% lignocaine hydrochloride with 1:80,000 epinephrine), curettage was performed in the anterior maxillary and mandibular arch with the help of Gracey curettes # 1, 2, 3, 4,5,6. The patient was advised to perform proper oral hygiene maintenance and trained in the proper brushing technique (Modified Bass Technique).



Fig:3 – Resolution of gingival inflammation after 2 weeks of oral prophylaxis and curettage.

Chlorhexidine 1.2% mouthwash was prescribed and warm saline rinses were advised along with it. The patient was recalled in 14 days. On the basis of the existing enlargement, gingivectomy with a scalpel was planned. Prior to the surgery, written informed consent was obtained. Under local anesthesia, an external bevel gingivectomy was carried out. Tin foil was placed as a barrier and the area was covered with a periodontal pack.

Immediately following surgery, ice packs were recommended intermittently for three hours and the patient was advised to use 0.12% chlorhexidine gluconate mouth rinse for four weeks. Systemic antibiotics and analgesics were prescribed (Amoxicillin-500 mg, three times daily for five days).

Healing was uneventful with very minimal post-operative pain. Recall check-up showed Uneventful healing and the patient was followed for the next 6 months at a regular interval of 1 month. The patient was recalled after 1 month for review.



Fig:4- Surgical gingivectomy done in mandibular lower front region and periodontal dressing given.



Fig:5 - Surgical gingivectomy done in maxillary upper front region and periodontal dressing

given.



Fig:6 – After 1 month review – reduction in gingival enlargement is seen.

DISCUSSION:

Gingival enlargement is a common clinical condition characterized by an abnormal overgrowth of the gingival tissues, which can result from a variety of etiologies including inflammatory, drug-induced, systemic, hereditary, or idiopathic factors.

Surgical intervention, particularly gingivectomy, remains a well-established and effective approach for the treatment of moderate to severe gingival enlargements, especially when non-surgical periodontal therapy (such as scaling and root planing) yields limited results.⁽⁵⁾ Gingivectomy allows for the precise removal of excess gingival tissue, recontouring of the gingival architecture, and restoration of functional and aesthetic harmony.

In cases of inflammatory or drug-induced enlargement, initial management should include thorough oral prophylaxis and elimination of local irritants. However, persistent or fibrotic overgrowth often requires surgical excision. In such cases, external bevel gingivectomy is commonly employed, providing direct access and visibility while minimizing recurrence when proper oral hygiene is maintained.

Surgical technique selection is based on factors such as the extent of enlargement, the amount of attached gingiva, and the presence of underlying bone defects.⁽⁶⁾ Laser-assisted gingivectomy and electro surgery have emerged as alternatives to conventional scalpel techniques, offering advantages such as reduced bleeding, minimal postoperative discomfort, and faster healing. Nevertheless, these methods require specialized training and equipment.

Postoperative care plays a critical role in the long-term success of surgical treatment. Patients must be educated on maintaining optimal oral hygiene and encouraged to attend regular follow-ups to monitor healing and prevent recurrence. In drug-induced cases, consultation with the patient's physician to modify or substitute the causative medication is essential to avoid re-enlargement.

Overall, surgical management of gingival enlargement through gingivectomy has shown favorable outcomes in terms of both function and esthetics. Careful diagnosis, proper case selection, and adherence to periodontal principles are key to achieving predictable and lasting results.

CONCLUSION:

A thorough understanding of the etiology, careful case selection, and adherence to proper surgical principles are essential for achieving optimal clinical outcomes.⁽⁸⁾ Postoperative maintenance and patient education are equally important in preventing recurrence. With advancements in surgical techniques and patient-centered care, the management of gingival enlargement can lead to both functional improvement and enhanced patient satisfaction.

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CONFLICT OF INTEREST:

None.

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