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CASE REPORT ARTICLE

# Aesthetic Management of Idiopathic Gingival Enlargement: A Case Report

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**Abstract**

Gingival enlargement is a common clinical condition caused by a number of reasons that includes inflammation, medications, systemic diseases and conditions etc. The balance between gingiva and clinical portion of teeth is lost resulting in poor aesthetics. Idiopathic gingival enlargement is a rare condition of undetermined cause characterized by progressive fibrous overgrowth of the gingival tissues. Gingivectomy is the treatment of choice which can be done by surgical excision using scalpels, electrocautery & electrosurgery, soft tissue lasers etc. This case report presents "aesthetic management of idiopathic gingival enlargement in a 17 year old male patient."

**Keywords:** Aesthetic, External bevel gingivectomy, Gingival enlargement, Gingival fibromatosis, Idiopathic

## Introduction

Aesthetics is one of the major factors which influence the treatment planning in the field of clinical dentistry. For a harmonious smile, it is important to maintain a balance between gingival and coronal portion of teeth. In cases of gingival enlargement this balance is lost resulting in poor aesthetics. Patients with gingival enlargement usually presents clinically due to functional and aesthetic problems. Gingival enlargement can be caused by multiple reasons e.g. inflammation, medications, systemic diseases and conditions etc.

Idiopathic gingival enlargement is a rare condition of undetermined cause characterized by progressive fibrous overgrowth of the gingival tissues. The enlargement affects the attached gingiva, the gingival margin, and the inter dental papillae. The facial and lingual surfaces of the mandible and maxilla usually are affected, but the involvement may be limited to either jaw. The enlarged gingiva is pink, firm, and almost leathery in consistency, and it has a characteristic minutely pebbled surface. In severe cases, the teeth are almost completely covered, and the enlargement projects into the oral vestibule. The jaws appear distorted because of the bulbous enlargement of the gingiva. Secondary inflammatory changes are common at the gingival margin.[1]

Excessive gingival tissue may obstruct the exfoliation of deciduous teeth and eruption of permanent teeth. After removing the obstruction eruption of permanent teeth can be expected. The enlarged tissue may cause diastema, pathological migration and may delay or impede tooth eruption. In severe cases, mastication, phonetics and aesthetics may be affected. The beginning of the enlargement usually coincides with the eruption of permanent teeth; however, cases have been reported to occur even in deciduous dentition and rarely at birth.[2,3] This case report addresses the diagnosis and aesthetic management of idiopathic gingival enlargement in a17 year old male patient."

## Case Report

A 17 year old male accompanied by his mother reported to the Department of Periodontics, Maulana Azad Institute of Dental Sciences, New Delhi with the chief complaint of swollen gums in upper and lower jaws preventing proper speech, articulation, and mastication, causing inadequate lip apposition and poor esthetics. The enlargement was gradually increasing in size and causing discomfort to the patient aesthetically and functionally. There was no associated history of drug intake, neither any physical or mental disorder was reported. Family history was also non-contributory. On general physical examination, gait of the patient was found normal. Patient was conscious to the time, place and person with little difficulty in phonetics.

On intra-oral examination, a generalized diffuse fibrotic enlargement of gingiva was found involving both buccal & linual/palatal sides. Gingival enlargement score of grade III was given, however it was not superimposed

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by any secondary inflammatory changes.**(Figure 1)**

**Fig 1 Pre operative view**

Retained deciduous canine was present in left maxillary arch with impacted permanent canine. Remnants of roots of left mandibular first molar were present. Probing revealed pseudo pockets with no loss of attachment and no mobility.

Panoramic radiograph revealed resorbed root of deciduous canine in left maxillary arch with permanent canine present periapically. Root formation of all the wisdom teeth was evident. No periodontal bone loss was noted.**(Figure 2)**

**Fig 2 Panoramic view**

All the lab investigations were with in the normal physiological range including complete haemogram, thyroid levels (T3, T4 & TSH), calcium and alkaline phosphatase level estimation.

A provisional diagnosis of idiopathic gingival enlargement was made on the basis of all the findings. A detailed treatment plan was made after establishing the diagnosis.

## Treatment

Potential risks and benefits were explained to the patient's guardian and an informed consent was obtained.

Initially, phase 1 therapy was carried out for the patient which included oral prophylaxis, extraction of deciduous canine in left maxillary arch and left mandibular first molar followed by oral hygiene instructions.

After performing phase 1 therapy, patient was kept under review for 4 weeks and then surgical treatment was carried out quadrant wise using external bevel gingivectomy.

Surgical site was disinfected with 2% povidone-iodine solution and local anesthesia was given i.e. lignocaine HCl 2% with 1:200000 epinephrine.

Pocket depths were marked using crane-kaplan pocket markers. External bevel incision was given using Kirkland knife. Gingival tissue was removed using curettes and collected in 10% formalin for histopathological examination. Orban knife and tissue nippers were then used to contour the interdental papillae and remaining portion of excess gingival tissue. Hemostasis was achieved and periodontal dressing was placed. **(Figure 3)**

**Fig 3 Surgical Management**

Postoperative instructions were given to the patient along with the antibiotics and anti-inflammatory agents. Uneventful healing was observed by secondary intention.

H & E staining showed parakeratinized stratified squamous epithelium overlying a cellular fibroblastic tissue and extensive interlacing bundles of collagen fibers. The connective tissue stroma was vascular with plump fibroblasts. There was scattered inflammatory cell infiltrate which was mainly plasmalymphocytic in nature. Few mast cells were seen. Melanin incontinence was seen. **(Figure 4)**

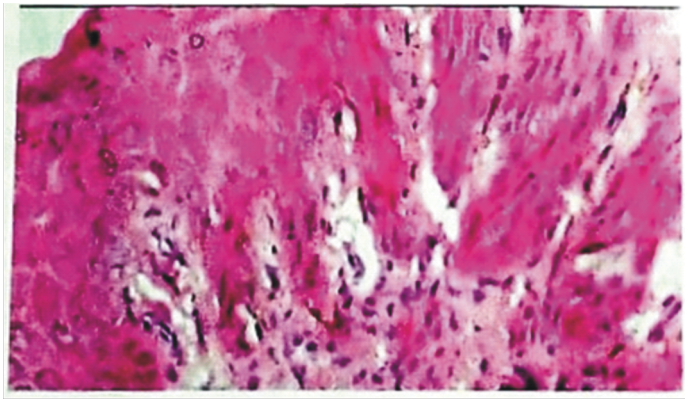

**Fig 4 Histopathologic analysis**

Frequent follow ups were carried out and no recurrence was noted. The impacted left maxillary canine was found to be continuously erupting in coronal direction.**(Figure 5 & 6)**

**Fig 5Post operative view (2 months)**

Fig 6 Follow up after 18 months

## Discussion

Gingival fibromatosis is one of the types of gingival enlargement and it is further classified into hereditary and idiopathic forms. Idiopathic forms of gingival fibromatosis have not been linked to specific genes or any other etiology, and the condition is designated as idiopathic. While hereditary gingival fibromatosis has been linked to several genetic loci and it can develop as an isolated disorder or a feature of a syndrome.[4,5,6,7] A distinction can be made between the two forms by asking the family history and postnatal history.

Various known syndromes associated with gingival enlargement includes Rutherford's syndrome (corneal dystrophy), jones syndrome (progressive deafness), Murray-PureticDrescher syndrome (multiple hyaline fibromas), Laband syndrome, cross syndrome[8], Cornelia De Lange syndrome, Ramon's syndrome, Hypothyroidism, chondrodystrophia, and diffuse osteofibromatosis[9] (GF with osteofibrosis), Wynne and colleagues[10] have reported a syndrome which is associated with hearing deficiencies, hypertelorism, and presence of supernumery teeth.

Various treatment modalities have been advocated including surgical excision using scalpels, electrocautery & electro surgery, soft tissue lasers etc. While selecting the mode of treatment, the operator should be aware of the advantages and disadvantages of each technique. Surgical excision using scalpels is relatively fast but it becomes difficult to manage bleeding at times. Soft tissue laser provides excellent hemostasis but it is relatively time consuming, hence not indicated in excessive enlargement case. Electrocautery & Electrosurgery also provide excellent hemostasis but relatively uncontrolled and can cause bone necrosis if comes in contact. Recurrence is not rare in such cases so regular follow up should be systematically planned. A gradual repositioning of the pathologically migrated teeth is also reported after surgical therapy.[11] This could be explained by the removal of the etiological factors such as pressure produced from enlarged gingiva and disturbance in the force of oro-facial musculature.[12,13] Orthodontic and prosthetic management should also be considered if needed.

## Conclusion

Once the correct diagnosis is made, prognosis can be determined. In case of idiopathic gingival enlargement, prognosis is usually good. Of all the treatment modalities available, the operator should choose the best option. External bevel gingivectomy is still considered the gold standard. Biopsy should be performed to confirm the diagnosis and to rule out any other pathology. Recurrence is common, which can be prevented by regular follow up including patient motivation regarding oral hygiene maintenance.

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