Idiopathic Gingival Enlargement- An Inter-Disciplinary Approach

Abstract
Fibrotic gingival enlargement is a benign slow growing proliferation of the gingival tissue characterized by overgrowth of collagen fibers. This paper reports an orthodontic case which was diagnosed through clinical and histopathological analysis as idiopathic gingival enlargement and was treated by multidisciplinary approach such as conventional gingivectomy and gingivoplasty followed by orthodontic treatment accompanied by regular periodontal maintenance therapy. Post orthodontic treatment recurrence of the gingival enlargement was minimal with optimal esthetic and functional harmony of the dentition.
Key Words: Idiopathic Gingival Enlargement;Gingivectomy;Orthodontic Treatment

Introduction
Gingival fibromatosis is a heterogenous group of disorders characterized by progressive enlargement of the gingiva caused by an increase in the sub-epithelial connective tissue elements.(1-3) In idiopathic gingival enlargement no causative agent can be identified and a family history is always lacking.(4) A definitive diagnosis of idiopathic gingival enlargement can be arrived upon by a thorough medical, dental and family history along with histopathological examination of gingival tissue. The diagnosis of this disease is by exclusion when no other known causative factor can be identified. Only a few cases which were similar in nature have been treated by interdisciplinary approach to date as reported in the literature.(5) We report a case of idiopathic gingival fibromatosis which was diagnosed based on history, clinical findings and biopsy.

Case Report
A 13-year old female patient visited to the outpatient department of Periodontics complaining of swelling of gums in upper and lower arches. Patient noticed swelling when she was seven years old with a gradual drifting of teeth. There was no history of pain and bleeding. There was no relevant medical and family history. Her physical appearance was normal and no hormonal disturbances were detected. Intraoral examination revealed diffused gingival enlargement of both maxillary and mandibular arches. The enlarged gingiva was covering up to middle third of the crown portion of all the teeth present. The enlarged gingiva was pink in color and was firm and resilient in consistency. Local factors were minimal without any other periodontal findings (Fig1). There were malpositioned teeth with increased lower anterior facial height and a vertical growth pattern. Patient had skeletal class II, with Angle class I molar relation on right side, and class II relation on left side with highly placed maxillary canines. Hematological examination did not reveal any abnormality. Patient was taken up for phase I periodontal therapy which included scaling and root planning. After a week patient was recalled for the surgical approach. External bevel gingivectomy procedure was planned quadrant wise in both upper and lower arches, with one week gap between the procedures (Fig 2). The excised tissue was sent for histopathological examination. The examination revealed hyperparakeratinised stratified squamous epithelium with underlying fibrous connective tissue. Connective tissue showed bundles of collagen fibers, coursing in an irregular pattern. Mild acute inflammatory infiltrate comprising polymorphonuclear leucocytes were noted. Areas of hemorrhage were seen in few foci. The above histopathological features were suggestive of fibro-epithelial hyperplasia (Fig 3).

Figure 1: Pretreatment, Figure 2: Post-Surgical, Figure 3: Photomicrograph, Figure 4: Final Stage
After three months orthodontic treatment was initiated with the objective of aligning both upper and lower arches and to retract maxillary anteriors. 0.22 MBT appliances were placed in both upper and lower arches with the sequential wire changes as and when required. Alignment of teeth was achieved after 18 months (fig 4). The appliance was removed and patient was placed on fixed retentive appliance.

Discussion

Idiopathic gingival enlargement is a slowly progressive disease involving excessive collagen deposition.(1-3) The enlarged gingiva is usually of normal pink color. The enlargement may be localized to specific areas of the mouth, typically the labial gingiva around the lower molars and the maxillary tuberosity region or may be generalized. Severity may vary from mild involvement of few teeth to severe involvement of all the teeth.(4)

Very few case reports exist on the orthodontic treatment of patients with idiopathic gingival enlargement.(5) A treatment protocol does not exist for the periodontal and orthodontic management of these cases. In the present case, the patient gave a history of onset coinciding with shedding of deciduous teeth and eruption of permanent teeth. The histopathological features corroborated with the clinical findings consistent with idiopathic gingival enlargement. In view of the difficulties in mastication, speech, malpositioned teeth and the esthetic effects on the patient an interdisciplinary approach involving periodontal surgery and maintenance and orthodontic treatment was adopted in this case. Reports about recurrence rates after gingival debulking are conflicting, so the long-term benefit of conventional gingivectomy procedure cannot be predicted.(4) The shortage of case reports(6) on orthodontic treatment following periodontal surgery in idiopathic gingival hyperplasia only necessitates regular follow-up not only after surgery but also during orthodontic treatment.

External bevel gingivectomy procedure was performed quadrant wise in upper and lower arches, with a gap of one week between the surgical procedures. A period of 3 months was allowed to evaluate healing of the gingival tissue as well as any possible recurrence of the gingival enlargement. This duration was deemed to be sufficient based on a similar case of hereditary gingival hyperplasia wherein the authors had a review period of 2 months.(5) At each orthodontic visit, the wires were removed and supportive periodontal therapy was given. A minimal recurrence of gingival enlargement was noted in this patient during orthodontic treatment. The movement of the teeth was uneventful and did not vary much from any other routine case.(6)

Conclusion

In conclusion, we present a case of idiopathic gingival enlargement which was treated with a combined periodontal and orthodontic approach resulting in drastic improvement in the patient’s esthetics, mastication and occlusion.

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