

## Idiopathic Gingival Fibromatosis With Aggressive Periodontitis – A Rare Case Report

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### Abstract

Idiopathic gingival fibromatosis is a rare benign oral condition characterized by a slowly progressive, non-hemorrhagic, fibrous enlargement of maxillary and mandibular attached and non-attached gingivae. A 14 year old female patient suffered from unusual gingival enlargement, more on the left side along with generalized aggressive periodontitis. The enlarged gingiva covered more than two-thirds of the clinical crowns. Marked inflammatory hyperplasia of epithelium and connective tissue of the gingiva was observed histopathologically. Perioscan test was performed, the results of which were negative. The diagnosis of Idiopathic gingival fibromatosis with aggressive periodontitis was made. Conventional periodontal therapy was performed followed by excision of the enlargement using gingivectomy procedure.

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*Key Words: Aggressive periodontitis, Bleeding gums, Gingival enlargement, Gingival fibromatosis, Mobility, Pocket formation*

### Introduction

Idiopathic gingival fibromatosis, a benign, slow-growing proliferation of the gingival tissues, is genetically heterogeneous. This condition is usually part of a syndrome or, rarely, an isolated disorder.<sup>1</sup> It is a rare disease of infancy characterized by gingival enlargement of normal color and firm in consistency that is non-hemorrhagic and asymptomatic.<sup>2</sup> Isolated (non-syndromic) hereditary gingival fibromatosis (HGF) can be caused by mutations of SOS1 gene, but the existence of genetic heterogeneity for HGF indicates that mutations of other genes can also cause the condition. Another genetically inherited disease of the periodontium is aggressive periodontitis.<sup>3</sup> Aggressive periodontitis, typically results in severe, rapid destruction of the tooth supporting apparatus. The increased susceptibility of the host population with aggressive periodontitis may be

caused by the combined effects of multiple genes and their interaction with various environmental factors.<sup>1</sup> It is always not possible to identify the exact etiologic factor responsible for such condition.

We recently experienced an unusual case of gingival enlargement. Clinically this patient showed extensive gingival enlargement associated with generalized aggressive periodontitis.

### Case Report

A 14 year old female patient reported to the department of periodontics with the following complaints of swollen gums on the left side of both upper and lower jaws since 3 years which was gradual in onset and increased in size since 3 months, inability to chew from that side, bleeding gums while brushing the teeth and bad breath since 2-3 months. There were no relevant findings in her medical history and she was not taking any regular medication such as phenytoin, cyclosporine or nifedipine which could have induced gingival enlargement. Family history was void of any genetic disorders. Two of her siblings and parents were examined, but there was no similar enlargement. No mental retardation, skeletal deformities, or defects of skin or finger nails were observed. In general examination, the patient was found to be reasonably active and of normal built and gait.

Extra-oral examination revealed mild asymmetry of the face with fullness over left side of the face. On palpation the swelling was soft to touch. Right and left submandibular lymph nodes were palpable, non-tender, soft and movable. Lip seal was competent. Mouth breathing and tongue thrusting was present.

On intra-oral examination, oral mucosa, buccal mucosa, labial mucosa, palate, tongue, vestibule, floor of the mouth revealed no abnormality.

Gingival examination showed diffuse gingival enlargement, more on the left side of the upper and lower jaw on both buccal and lingual surfaces and covered more than two-thirds of the clinical crown (Fig. 1-7).

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The enlarged gingiva on the palatal side was continuous with the palatal mucosa. The dental arches on the affected side were broad and rounded. The excessive gingival tissue was producing a bulbous arch form in the bucco-lingual plane. The enlarged gingiva was reddish-pink with melanin pigmentation, soft in consistency, oedematous. Generalized bleeding on probing and exudation was observed. Generalized gingival clefts were seen. The gingival enlargement on the left side of the jaws presented with a lobulated surface with diffuse ill defined margins. The enlargement was confined to the marginal, papillary and attached gingiva, the alveolar mucosa was not involved; it however obliterated the depth of the vestibule on the left side of the jaws. The degree of gingival enlargement was scored as Grade III (Bokenkamp et al 1994).<sup>4</sup> The oral hygiene status of the patient was fair. There was grade III mobility in relation to 24, 25, 26, 27, 36 and grade II mobility in relation to 12, 22, 37, 42. Extruded teeth 25, 36. Generalized periodontal pockets (in depth range of 4-15mm) were present. Grade I furcation involvement in relation to 16, 46 was present. The patient gave a history of migration of teeth on the left side of the upper and lower jaws.

Class I molar relationship on the right side and disturbed on the left side with anterior open-bite and cross-bite in relation to 25, 35-36. Open contacts and wear facets were present.

Laboratory tests including blood and serology (serum alkaline phosphatase (134.0U/L{50-162U/L}), serum calcium (10.3 mg % {9-11 mg %}) and serum phosphorus (3.1 mg % {2.5-4.5 mg %}) were carried out. With the exception of elevated ESR, investigations failed to reveal any causative factors or abnormalities.

Radiographic examination revealed presence of all permanent teeth with generalized crestal bone loss in interdental area, which was severe in relation to upper and lower left posterior segments (Fig. 8).

For microbial examination, Perioscan test was performed, the results of which were negative. Excisional

biopsy was performed and subjected to histopathological examination. Histologic features showed connective tissue with dense bundles of fibrous tissue with occasional presence of fibroblasts. The epithelium was parakeratinized stratified squamous with elongated slender retepegs. Mild degree of chronic inflammatory cell infiltrate was seen diffusely spread within the connective tissue (Fig. 9-10).

Diagnosis of Idiopathic gingival fibromatosis with aggressive periodontitis was made on the basis of clinical, radiographic and histopathological examination. Treatment plan included extraction of teeth 25, 26, 36 and oral hygiene instructions, scaling and root planning and gingivectomy of the affected area.

A full mouth gingivectomy was performed using a combination of conventional and electrosurgical procedure. The patient is kept on supportive periodontal treatment at regular recall visits for observation of recurrence if any. Later the extracted teeth will be replaced.

## Discussion

The present case has to be differentiated from the following disorders like Neoplastic gingival enlargement, drug induced gingival enlargement such as phenytoin, cyclosporine, or calcium channel blockers, gingival enlargement due to nutritional deficiency, gingival enlargement associated with certain syndromes, gingival enlargement due to systemic diseases and conditions, allergies (plasma cell gingivitis).<sup>4</sup> However the clinical and histopathologic features and systemic examination ruled out the diagnosis of Neoplastic enlargement. Gingival enlargement occurs in some patients taking certain drugs, such as phenytoin, cyclosporine and nifedipine. However this patient had not taken any of these drugs. The extensive enlargement suggested that the patient may have been suffering from syndromes associated idiopathic gingival fibromatosis ie; Murray-Puretic-Drescher syndrome, Rutherford syndrome, Laband syndrome, Cross syndrome or

Cowden syndrome or others.<sup>2</sup> However general physical examination revealed no such syndromic associations.

Histologic features of gingival fibromatosis has been focused on the connective tissue alterations which showed an increased amount of collagen fiber bundles running in all directions associated with few fibroblasts and the epithelium showing elongated retepegs.<sup>6</sup> This histologic feature was noted in the present case.

Scaling and root planning resulted in a mild reduction in the extensive gingival enlargement. This suggested that local irritation might have induced the condition and the patient masticated unilaterally which in turn caused accumulation of plaque and secondary inflammatory changes on the unused side (left side). Probably local plaque irritational and hormonal changes at the age of puberty super-added to initial gingival enlargement and then deepened the gingival pockets. The alveolar bone loss might have then advanced very extensively.

Idiopathic gingival fibromatosis associated with aggressive periodontitis have been reported by Chaturvedi R (2009)<sup>1</sup> and Casavecchia P, Uzel MI, Kantari A, Hasturk H, Dibart S, Hart TC, et al (2004).<sup>3</sup> This is the rare case report of Idiopathic gingival fibromatosis with aggressive periodontitis showing extensive periodontal destruction in a young female.

The co-existence of gingival fibromatosis with aggressive periodontitis presents a challenge for the dental professional. Currently, it is not known which common mechanisms, if any, would be involved in the pathogenesis of these two entities. However, due the rare observation of these lesions concurrently, it is of interest both to clinician and basic scientists to study such cases in further detail.

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**Figure 1**  
Intra-oral photograph: Frontal View



**Figure 2**  
Intra-oral photograph: Left Lateral View



**Figure 3**  
Intra-oral photograph: Right Lateral View



**Figure 4**  
Intra-oral photograph: Left Palatal View



**Figure 5**  
Intra-oral photograph: Right Palatal View



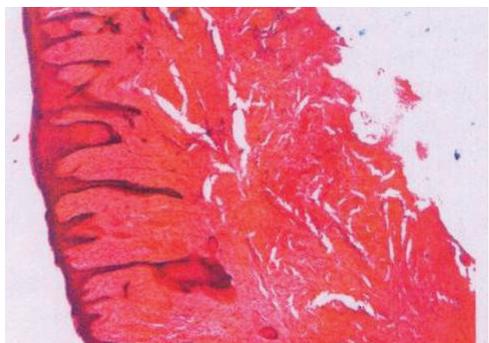
**Figure 6**  
Intra-oral photograph: Left Lingual View



**Figure 7**  
Intra-oral photograph: Right Lingual View



**Figure 8**  
Radiographic view: OPG



**Figure 9**  
Microscopic View of the biopsied tissue



**Figure 10**  
Microscopic View of the biopsied tissue



**Figure 11**  
After gingivectomy: Left Lateral view



**Figure 12**  
After gingivectomy: Palatal view