



Idiopathic gingival fibromatosis – case report

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Abstract: Idiopathic gingival enlargement is a type of gingival fibromatosis characterized by progressive overgrowth of the gingival tissues. This case report presented the clinical features of a typical idiopathic gingival enlargement which was treated with external bevel gingivectomy. The patient presented with generalized diffuse gingival enlargement involving the maxillary and mandibular arches extending on buccal and lingual/palatal surfaces and covering incisal/occlusal third of the tooth resulting in difficulty in speech and mastication since last three years. Gingivectomy was carried out to improve patient's quality of life. Since removal of hyperplastic gingival tissue eliminates difficulties in eating and speaking. Therefore, this surgical intervention improves access for plaque control, and leads to psychological benefits due to esthetic improvement. In this case, even after one year from following-up, no recurrence of gingival overgrowth was observed.

Keyword: Gingival Overgrowth, Idiopathic Gingival Fibromatosis, Gingivectomy, Biopsy, Yemen

1. Introduction

Gingival fibromatosis is a rare condition resulting from the proliferative fibrous overgrowth of the gingival tissue. It also described as a heterogeneous group of disorders characterized by progressive enlargement of the gingiva caused by an increase in submucosal connective tissue elements [1].

Many cases are iatrogenic; some are inherited while others are idiopathic. Hereditary gingival fibromatosis is a rare disease, affecting only one in 750,000 people, while it can develop as an isolated disorder or a feature of a syndrome. Hereditary is usually identified as an autosomal dominant condition although recessive forms are described in the literature [1, 2].

Unlike in hereditary gingival fibromatosis and iatrogenic gingival fibromatosis, in idiopathic gingival fibromatosis, no causative agent can be identified. This condition usually begins at the time of eruption of permanent teeth but can develop with the eruption of deciduous dentition and rarely present at birth [3]. The hyperplastic gingiva in idiopathic gingival fibromatosis usually presents a normal color and has a firm consistency with abundant stippling. The idiopathic gingival enlargement may occur alone or as part of a syndromes [4-5].

The aetiology and pathogenesis of gingival hyperplasia are

still not well established; however it could be directly linked to three factors: individual susceptibility, local factors (dental plaque, caries, and iatrogenic factors) and the action of chemical substances and their metabolites. The condition is not painful until the tissue enlarges to partially cover the occlusal surface and becomes traumatized during mastication [1].

Due to massive gingival enlargement, an affected subjects usually develops an abnormal swallowing pattern and experiences difficulty with speech and mastication. Along with these features, there may be some interference with maintenance of oral hygiene and mastication. All these factors will favor accumulation of plaque, which further complicates the existing hyperplastic tissue. More severe lesions may cover the dental crowns, resulting in both aesthetic and functional problems. Therefore, these patients have a tendency to swallow partially crushed food which eventually causes gastric disturbances [4-5].

The clinical heterogeneity of the disease has made the diagnosis and predictability of treatment success difficult. Furthermore, it is the first case in Yemen so far reported gingival fibromatosis without a genetic predilection. This atypical presentation should make dentists, physicians and periodontists aware about such case. Thus, this case reports a non-syndromic case of gingival fibromatosis along with its management.

2. Case Report

24-year old female accompanied by her brother referred from Faculty of Dentistry, University of Ibb, Yemen with a chief complaint of enlarged gums in upper and lower arches which caused difficulties in speech, mastication, and complete closure of lips, thereby leading to aesthetic impairment. Additionally, this problem psychologically interrupted the normal activity of this patient.

Due to socioeconomical level of this patient was low; thus, she was left without any health care and medicament for years. Any mental impairment was not noticed on this patient and her weight and height seemed within normal limits. Patient stated that enlargement was present since 1996 and has progressed slowly since then. Her medical history revealed not any systemic diseases and her family history was also non-contributory.

2.1. Clinical Examination

The extraoral examination revealed that the patient has incompetent averted lips and a convex profile. The patient was incapable to close her lips because of the enlarged tissues. Intraoral examination exhibited generalized severe gingival overgrowth involving both the maxillary and mandibular arches. A slowly progressive fibrous enlargement of the maxillary and mandibular gingiva is a feature of idiopathic fibrous hyperplasia. Characteristically, this massive gingival enlargement appears to cover the tooth surfaces and displace the teeth. The enlarged gingiva totally or partially covered the crowns of permanent teeth with only the incisal and occlusal surfaces visible. The gingiva was firm, dense, and fibrous in consistency as shown in Fig. 1. Mild inflammatory signs were present. In addition, halitosis was accentuated. Bleeding and suppuration were noticed in most areas. Dental plaque and calculus were found with moderate levels. Pseudopockets ranging from 6mm to 8 mm were observed. The patient was severed from poor oral hygiene, due to she did not utilize any kind of toothpaste and/or other types of oral health care for her life as she stated. Panoramic radiographic examination showed mild bone resorption around some anterior and posterior teeth.



Fig. 1. Pre-operative progressive gingival fibromatosis.

2.2. Histopathological Evaluation

Biopsy was carried out and sent for histopathological study. Histopathological study exhibited hyperparakeratinised stratified squamous epithelium and a reticular acanthosis. The overlying epithelium revealed hyperplasia and had elongated rete ridges as illustrated in Fig. 2. It also revealed bulbous increase in the connective tissue, which was relatively avascular and had densely arranged collagen-fiber bundles (Fig. 3). Numerous fibroblasts and mild chronic inflammatory cells also were noticed.

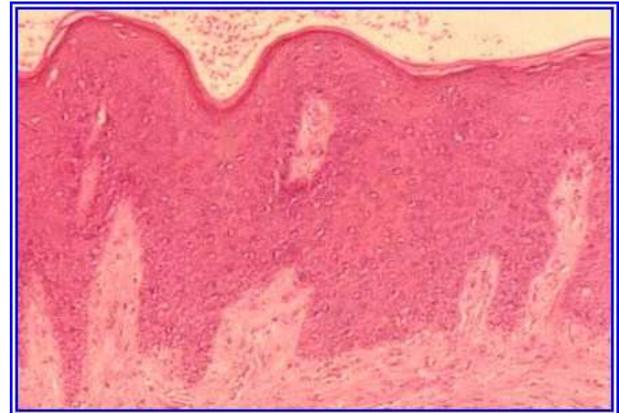


Fig. 2. Histopathological section showing hyperplastic epithelium with elongated rete ridges.



Fig. 3. Histopathological section of underlying connective tissue showing bundles of fibers.

2.3. Diagnosis

On the basis of medical, family, drug history, clinical and histological findings, the case was provisionally diagnosed to be a case of idiopathic gingival fibromatosis.

3. Treatment

Initially, conventional periodontal therapy was carried out for this patient. This phase of the therapy was sustained for two weeks. After completion Phase I treatment, the patient was subjected for corrective therapy (Phase II, surgical procedure). The surgical procedures were performed under local anesthesia. In upper arch, quadrant wise technique was made (Fig. 4), followed by an external bevel gingivectomy

procedure (Fig. 5). Further, the same surgical procedure was also performed for lower arch with interfere between both surgical procedures was 9 days. Afterwards, scaling and root planning were accomplished after removal of enlarged gingival tissues surgically (Figs. 5 and 6). Subsequently, periodontal dressing was then applied into surgical area for protection and hemostasis purpose (Fig. 7). Antibiotics and anti-inflammatory agents were then prescribed for one week. Lastly, the removed tissue was sent for histopathological study.

The patient was highly motivated to keep up good oral hygiene. This procedure of the treatment is called maintenance phase (Phase III). Finally, the patient was informed to retain for following up record. No recurrence was noticed after one year following-up (Fig. 8).



Fig. 4. Quadrant wise technique.



Fig. 5. Enlarged gingival tissues that removed surgically.



Fig. 6. Postoperative image after nine days from external bevel gingivectomy procedure.



Fig. 7. Periodontal dressing applied into surgical area.



Fig. 8. Image for gingiva of the patient after one year following-up.

The analysis for removed tissue revealed hyperparakeratinised stratified squamous epithelium and a reticular acanthosis with elongated rete ridges with underlying fibrous connective tissue (Fig. 4). Connective tissue exhibited bundles of collagen fibers associated with few fibroblasts (Fig.5). Evidence of dysplasia was not noticed.

4. Discussion

This case report describes gingival enlargement in a Yemeni patient that also had moderate plaque and calculus accumulation. The gingival enlargement may be either hereditary or idiopathic, variations in the inheritance pattern and its frequent association with systemic defects or anomalies make it very complex to study [1].

The gingival enlargement is usually associated with continuous increase in mass of tissues, maintenance of oral hygiene become challenging during all phases of therapy. Occasionally, gingival enlargement does not occur until the eruption of the permanent dentition. Further enlargement does not occur once the growth of jaw is completed. Some studies reported that gingival enlargement may be due to nutritional and hormonal factors; however, these have not been completely validated [1, 2].

The present case of idiopathic gingival overgrowth may a typical condition, characterized by progressive, large masses of firm, dense, resilient insensitive growth that covers the alveolar ridges and extends over the teeth. If this case doesn't

treat, the tissue mass may continue in overgrowth. This will then lead to displacement of teeth, arch deformity, spacing, and migration of teeth. The condition is not painful until the tissue enlarges to partially cover the occlusal surface of the molars and become traumatized during mastication, which was observed in the present case. Attributable to massive gingival enlargement, the affected patient usually develops abnormal swallowing pattern and experiences difficulty in speech and mastication. Along with these features, there may be some interference with the oral hygiene measures and normal mastication. All these will favour accumulation of alba and plaque, which further complicates the existing hyperplastic tissue.

Various modalities of treatment had been proposed including radical treatment with extraction of the involved teeth, which was reported not to favour a recurrence of the growth [6]. The treatment of choice in this condition was gingivectomy to satisfy the patient's aesthetics [7]. This was coincided with the current study in which gingivectomy was used for restoring the patient's happiness.

Histopathological study was then carried out to insure that were not evidence of dysplasia. In the present study, the histopathological study exhibited that an increased amount of collagen fiber bundles associated with few fibroblasts and showed hyperparakeratinised stratified squamous epithelium and a reticular acanthosis with elongated rete ridges. These features are characterized the gingival enlargement as reported by pervious studies [1, 6, 7].

In the current study, though gingival overgrow tissue appeared to be pale and firm, the surgical procedure was complicated with excessive haemorrhage. Since recurrence could be expected within a few months after surgery and may return to the original condition within few years, the patient may have to undergo repeated gingivectomy procedures. This often causes further increase in the patients' psychological and emotional stress. Thus, psychological therapy is a commitment for patients.

Maintenance of good oral hygiene is very important [1]. It is not known if plaque control measures are effective in this condition; however, it is a good practice to maintain the plaque control following gingivectomy procedure. The

patients' maintenance of oral hygiene had to be emphasized as high recurrence rates have been associated with poor oral hygiene. In this study, on follow-up after a year, the patient showed not recurrence of the gingival overgrowth.

5. Conclusions

This case report presented the clinical features of a typical idiopathic gingival enlargement which was treated with external bevel gingivectomy. Benefits of surgical intervention are recognized to improve patient's quality of life. Since removal of hyperplastic gingival tissue eliminates difficulties in eating and speaking. Therefore, this surgical intervention improves access for plaque control, and leads to psychological benefits due to esthetic improvement. In this case, even after one year from following-up, no recurrence of gingival overgrowth was observed.

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