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Idiopathic Gingival Fibromatosis- A Case Report

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Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Idiopathic gingival fibromatosis is a rare condition with the diffuse proliferation of gingival fibrous tissue and is usually associated with syndromes or rarely an isolated disorder. This report is a case of generalized idiopathic gingival fibromatosis with a history of seizures in a 14-year-old female patient who presented with generalized gingival enlargement. The enlarged tissue was surgically removed by gingivectomy and gingivoplasty procedure. The patient was clinically monitored for improvement in her periodontal condition and recurrence of the overgrowth.

Keywords: Idiopathic gingival fibromatosis, seizures, gingival hyperplasia

Introduction

Gingival fibromatosis is a heterogeneous, slowly progressive enlargement of gingiva caused by collagenous overgrowth and an increase in submucosal connective tissue elements. [1] Gingival fibromatosis can be hereditary or idiopathic. The term gingival fibromatosis suggests one of the fibromatosis, also called congenital hypertrophy of gingiva, elephantiasis gingivae, fibromatosis gingivae, gigantism of gingiva, symmetric fibroma palate, and congenital macrogingivae. [2]

The lesions are asymptomatic until the gingival overgrowth covers the crown of the teeth thereby interfering during mastication. The massive overgrowth can compromise patients' speech, mastication, oral hygiene maintenance and esthetics. Indeed, these factors

can enhance the accumulation of dental plaque which increases the occurrence of secondary inflammation of the existing hyperplastic tissues. [3]

Hereditary forms are the most common and occur either as an isolated condition or combined with rare syndromes or chromosome disorders. Unlike hereditary forms, idiopathic gingival fibromatosis is a rare condition characterized by a nonhemorrhagic fibrous gingival enlargement with an undetermined cause and no familial background.[2] This is a case report of gingival fibromatosis with a history of seizure, no familial and drug history, and its management.

Case Report

A 14-year-old female patient reported to the Department of Periodontology with a complaint of swollen gums in the upper and lower jaw which causes difficulty in mastication, speech, and complete closure of lips thereby leading to poor esthetics. The patient presented a gradual and slowly progressive enlargement of the gingival tissue of both the arches from the age of 6 years. The patient gives a history of seizure attacks 4 times in the last 8 years. A detailed history of the patient and the witness was taken, an episode of the unconscious state of mind, rhythmic twitching of the body accompanied with foaming at the mouth which lasts for 2 mins was reported. However, no medical intervention was attained by the patient and her family. She exhibited no signs of hypertrichosis, mental retardation, or intake of any medication known to cause gingival overgrowth. Family history was non-contributory. [Fig:1]

On examination, the patient had an incompetent lip with no gross asymmetry of facial appearance. Intraoral examination revealed generalized diffuse enlargement of gingival tissue confined to interdental papillae, marginal gingiva, and attached gingiva not extending alveolar mucosa and hard palate. The gingival tissue was pale-pink with superimposed melanin pigmentation, firm and fibrous consistency with pebbled surface appearance. The teeth were hardly visible as the overgrowth covers the incisal and occlusal third of the crown; diastema was evident due to excess gingival tissue. Stippling was present with no signs of bleeding on probing along with pseudo pockets. However, transgingival probing revealed no significant changes in the osseous topography.[Fig:2]

Panoramic radiographic investigations revealed all the permanent teeth with an absence of alveolar bone loss [Fig:3]. A haematologic investigation was done which was within the physiological limits. Based on the family, medical history, and clinical features, a provisional diagnosis of generalized idiopathic gingival fibromatosis was made.

The treatment plan consisted of arch wise surgical excision of the enlarged gingiva under local anesthesia. The patient was subjected to complete oral prophylaxis and oral hygiene measures were instructed before the surgery. The surgical procedure was explained to the patient and her parent, a written consent form was obtained.

Surgical Procedure

The surgical procedure was performed arch wise under aseptic condition. An interval of 2 weeks was given between the successive excisional surgeries followed by a gingivoplasty after 1 month. The gingival overgrowth was excised using external bevel gingivectomy with the help of bard parker blade 15, Kirkland and Orban's periodontal knives under local anesthesia. Light-cured periodontal dressing Barricaid® was placed. Post-operative instructions were given and appropriate medications were prescribed along with 10 ml 0.2% chlorhexidine gluconate mouthwash twice daily for 2 weeks. The dressing was removed and the surgical site was irrigated with iodine solution mixed with saline after seven days of the surgery.

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The patient was periodically recalled for follow-up visits during a one and half year span and no recurrent finding in the gingival overgrowth was reported during her follow-up.[Fig:4]

Histological Findings

The excised tissue specimen measuring 3mm x 4mm x 2mm treated in 10 % formalin was sent for histological examination. Histopathological findings revealed epithelium overlying connective tissue stroma with forking of the rete ridges. The connective tissue stroma seen was condensed with collagen fibers arranged in strata with plump to stellate shaped fibroblast, inflammatory cell infiltrate, and few blood vessels. The features were suggestive of fibrous hyperplasia which confirms the final diagnosis of Idiopathic gingival fibromatosis.

Based on the family history, drug history, clinical features and histological findings the patient was diagnosed with idiopathic gingival fibromatosis.

Discussion

Gingival fibromatosis can occur as an inherited condition or idiopathic out of which hereditary forms are the most common and has been linked to several genetic loci. These lesions occur in a highly fibrotic form of gingival overgrowth. [4]

By definition, idiopathic gingival fibromatosis is a condition of gingival hyperplasia which lacks family history and has no identifiable causative agents known to cause gingival hyperplasia. The clinical manifestations include diffused enlargement of gingiva involving marginal gingiva, attached gingiva and interdental papillae. The enlarged gingiva is usually pink, firm, leather consistency with a pebbled surface.[5][6] In severe cases, the teeth are almost covered and the jaw appears distorted. Gingival overgrowth is often seen in patients treated with anti-epileptic drugs, calcium channel blockers and immunosuppressant drugs.

Literature reviews on the heterogeneity of gingival fibromatosis have reported the association with simultaneous occurrence of gingival fibromatosis with systemic diseases such as hypertrichosis, mental retardation and/or epilepsy, other syndromes/chromosomal disorders, or as an isolated condition.[2][8]

Accordingly, they are classified [2]:

1. Isolated Hereditary Gingival Fibromatosis:

a) Generalized b) Localized

2. Isolated Idiopathic Gingival Fibromatosis:

a) Generalized b) Localized

3. Gingival Fibromatosis with hypertrichosis
4. Gingival Fibromatosis with hypertrichosis and mental retardation and/or epilepsy.
5. Gingival Fibromatosis with mental retardation and/or epilepsy.
6. Gingival Fibromatosis associated with other diseases with the formation of syndromes

The syndromes associated with Gingival Fibromatosis include Murray-Puretic Drescher Syndrome, Rutherford's Syndrome, Laband Syndrome, Jones' Syndrome, Cross Syndrome [9], Cornelia de Lange Syndrome, and Ramon's Syndrome. Wynne and colleagues reported a syndrome associated with hearing deficiencies, hypertelorism, and supernumerary teeth. [10]

In this case report, the patient exhibited mental alertness, with no signs of syndrome or systemic diseases. She presented hyperplastic gingival overgrowth being evident at the age of 6 years suggesting tooth eruption induced reactions that caused the overgrowth. [11] The nutritional and hormonal factors as a contributing factor for massive gingival overgrowth have not been substantiated. The patient and witness's history of reporting seizure attack and without the medical intervention of any medications was a paramount feature in differentiating this case from

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drug-induced gingival overgrowth in epileptic patients treated with phenytoin.

The presence of the combination of gingival overgrowth with seizure in this case report appears to support the classification of gingival fibromatosis with epilepsy. However; it is uncertain whether the combination is significant or fortuitous as the events of the association are unknown.

Conclusions

The present case report highlighted the rare association of gingival fibromatosis with the history of seizure without hypertrichosis, mental retardation and could be part of a new syndrome. However, further observations in this regard are warranted.

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Legends Figure

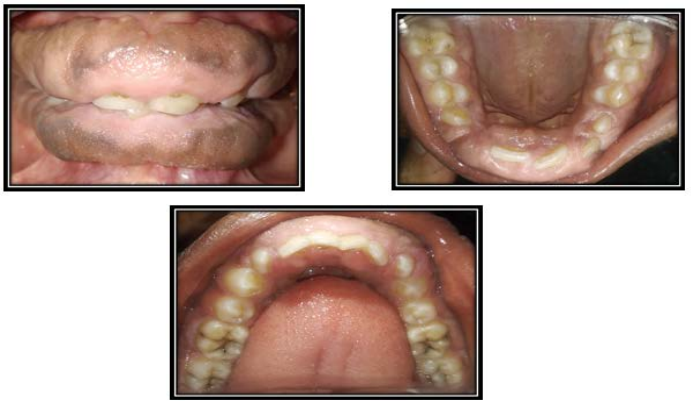

Fig.1: Clinical photographs representing extensive gingival enlargement involving both the arches.

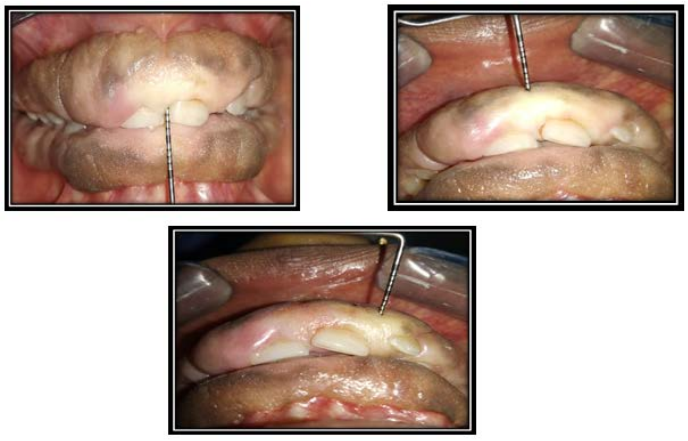

Fig. 2: Transgingival probing has shown no alterations in osseous topography

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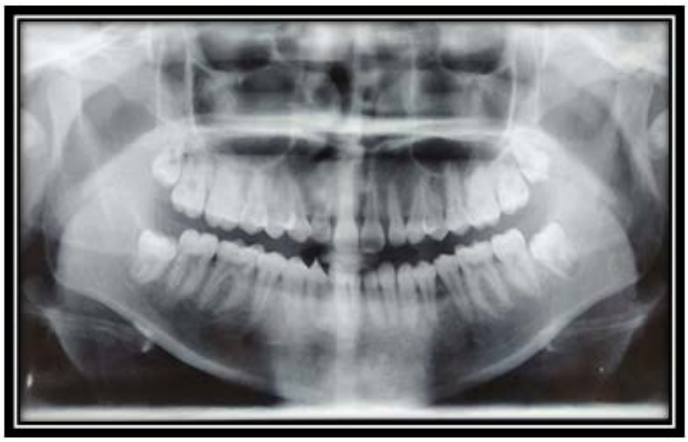

Fig. 3: Panoramic radiography evaluation demonstrates no alveolar bone loss

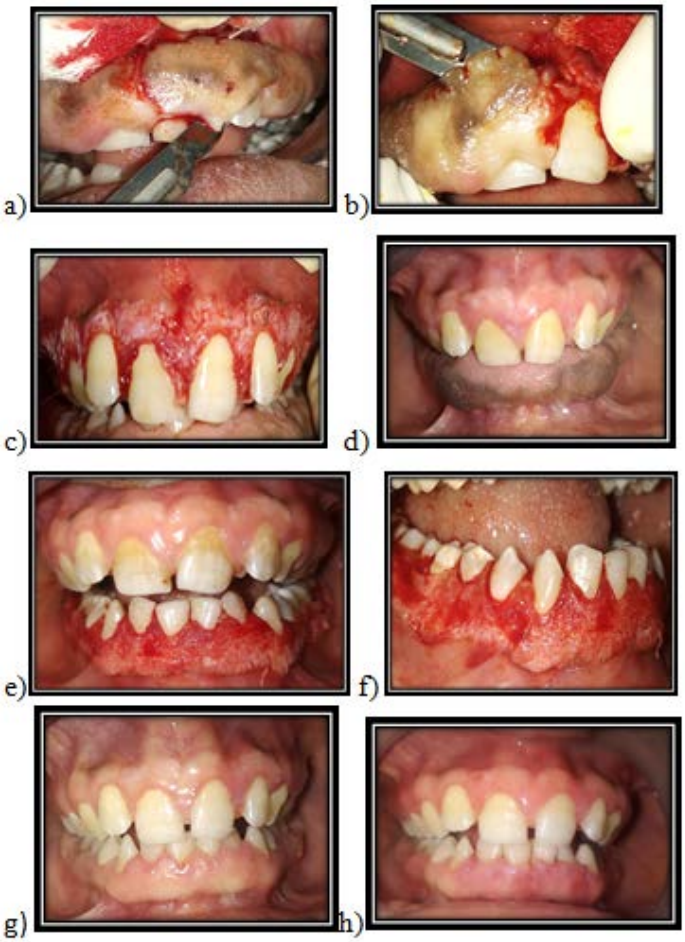

Fig.4: (a, b) External bevel gingivectomy in maxillary arch (c)Immediate post-operative(d) 1-week post-operative healing (e, f) External bevel gingivectomy in mandibular arch (g) 2 week gingivectomy post operative (h) 2 weeks after gingivoplasty

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