Case Report

Idiopathic gingival fibromatosis with massive gingival overgrowth: A rare case report

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Abstract:
Idiopathic gingival overgrowth can present itself as a part of syndrome or as an isolated entity. This is a case report of a massive gingival enlargement in a 12-year-old female child with nonsyndromic gingival fibromatosis, which was treated by multidisciplinary approach involving surgical and prosthetic rehabilitation and at the same time instilling psychological benefit.

Key words:
Fibromatosis, gingival enlargement, gingivectomy, idiopathic

INTRODUCTION
Idiopathic gingival fibromatosis (IGF) is a rare, benign, asymptomatic, slowly progressive, nonhemorrhagic condition of gingival overgrowth of undetermined cause. One in 750,000 individuals are known to be affected by IGF. It occurs in both genders. It affects the masticatory mucosa (marginal, attached, and interdental papilla), but does not spread beyond the mucogingival junction.[1] This condition is also known as elephantiasis gingivae, diffuse fibroma, familial elephantiasis, idiopathic fibromatosis, hereditary gingival fibromatosis, and congenital familial fibromatosis.[2,3] Hereby, we report a unique rare case of IGF with extensive gingival enlargement without any relevant medical or drug history in a 12-year-old girl.

CASE REPORT
A 12-year-old female accompanied by her father reported to the Department of Pedodontics and Preventive Dentistry, Dental Institute, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India, with the chief complaint of enlarged gums in the upper and lower jaws along with difficulty in eating and speech and was unable to close her mouth. Growth was progressive from the age of 3 years. The patient had stopped going to school from the last 2–3 years because of ghastly appearance and had minimum social interaction. Familial, medical, and drug histories were noncontributory. Extraoral examination showed massive generalized Grade III enlargement of the gingiva, which almost covered the crowns of all teeth, with partial cusp visibility of 26, 75, 84, and 46 [Figure 1]. Color of the enlarged gingiva was pink with melanin pigmentation. The enlarged gingiva was firm and fibrous in consistency. The excessive growth had caused obliteration of the vestibular fold [Figure 2]. The girl was chewing food with the assistance of the enlarged gums. Orthopantomogram showed multiple retained deciduous teeth namely 55, 54, 65, 75, 74, 85, 84, and 83. It also showed that all permanent teeth were present with displaced permanent molars; however, no significant bone loss was found [Figure 3]. Computed tomography scan showed protruded maxillary and mandibular anterior alveolar segments along with soft-tissue overgrowth with proclination of teeth, suggesting migration of teeth as well as expansion of the alveolar bone secondary to fibrous growth [Figure 4].

Complete hemogram including hormonal profile consisting of thyroid test, parathyroid test, calcium, and alkaline phosphatase was done. All the tests were within the physiological limits.

How to cite this article: Sharma S, Shahi AK, Prajapati VK, Singh B. Idiopathic gingival fibromatosis with massive gingival overgrowth: A rare case report. J Indian Soc Periodontol 2020;24:379-82.
A small tissue measuring 0.5 cm × 0.4 cm from the lower jaw was sent for biopsy, which showed proliferation of the fibrocollagenous tissue. No evidence of malignancy was found. Based on history and clinical features, a provisional diagnosis of IGF was made. Because of such massive gingival enlargement and considering patient compliance, excision of the enlarged gingival mass by gingivectomies along with anterior segmental ostectomy under general anesthesia was planned.

Among the suggested treatment protocols, surgery was done with the help of electrocautery using ledge-and-wedge technique along with internal bevel gingivectomy. All the retained deciduous teeth along with the permanent anterior teeth were removed as they were significantly mobile [Figure 5]. The excised mass was sent for histopathological analysis, which confirmed the findings of previous histopathological report. Hematoxylin- and eosin-stained section showed stratified squamous epithelium with rete pegs overlying fibrous connective tissue stroma. Higher magnification showed connective tissue comprising of uniform spindle cells with abundant intercellular matrix [Figure 6]. The child was kept on observation and follow-up, which gradually showed improved lip competency and esthetics in the next few weeks. Two months later, a temporary prosthesis was made for esthetic improvement [Figure 7]. The girl and her parents were motivated to start her schooling and normal day-to-day activities. There was a significant gain in child’s confidence after removable prosthesis. Permanent implant-supported prosthesis is planned at a later stage after completion of the growth of jaw.

**DISCUSSION**

Gingival enlargement may occur as an inherited condition, known as hereditary gingival fibromatosis, or may be associated with inflammation, leukemic infiltration, and medication.[4] It occurs either as an isolated disease or combined with some rare syndromes such as Laband syndrome (defect of bone, nail, ear, and nose), Rutherford syndrome, Cowden syndrome, and Cross syndrome.[5,6] Hereditary gingival fibromatosis may be associated with hypertrichosis, growth retardation, hypopigmentation, and epilepsy. It has been reported commonly with patients taking nifedipine, virapamil, phenytoin, and cyclosporine.[7] IGF may be localized or generalized. Although causes of IGF are unknown, there may be genetic predisposition. It can be inherited as an autosomal dominant or autosomal recessive condition. Abnormal chromosome on phenotype 2p21 and 5q13-q22 is considered the...
In the present case, family history was negative and there were no associated clinical findings or any drug history. Hence, based on these clinical findings along with histological findings, the above case was diagnosed as IGF.

In IGF, gingival overgrowth usually begins with the eruption of permanent dentition or less frequently with the eruption of primary dentition and regresses after extraction, suggesting that teeth and the environment of gingival crevice may be the initiating factors. Constant increase in tissue mass can result in delayed eruption and displacement of teeth, arch deformity, spacing, and migration of teeth. In the present case, the patient reported to us at the age of 12, whereas the guardian gave a history of growth from the age of 3 years. There was a massive gingival enlargement at the time of the first visit with difficulty of mastication, swallowing, and speech with highly compromised esthetics and disfigurement of the face.

Histological finding included hyperparakeratinized epithelium with deeply extending rete pegs into the underlying connective tissue, which is a usual finding of idiopathic gingival enlargement. Our histological findings are consistent with the above findings.

Emerson recommended that the best time for excision is when all permanent teeth have erupted. In the present case, excision was done with internal bevel gingivectomy. Internal bevel gingivectomy in comparison to the conventional external bevel gingivectomy procedure causes less postoperative pain and bleeding. In addition, this technique allows the reflection of conventional flap to permit access to the underlying bone for resective osseous surgery.

Following surgery, removable partial denture (RPD) was prepared for the patient. Use of pressure appliance helps in reducing the size of gingival overgrowth; this therapeutic approach is valuable particularly for patients with contraindication to surgeries. In the present case, RPD acts as a pressure appliance. No recurrence was observed in 1-year follow-up. The child is still under observation for delayed eruption of posterior permanent teeth or any recurrence of gingival growth.

**CONCLUSION**

In the present case, there was massive gingival enlargement along with the involvement of alveolar arches. A multidisciplinary approach of surgical intervention and prosthetic rehabilitation was undertaken which resulted in functional competence and esthetic improvement and had also instilled psychological benefit to the child. The patient’s quality of life has improved significantly.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.
Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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