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Idiopathic Gingival Enlargement - A Case Report

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ABSTRACT

Idiopathic gingival enlargement is a rare proliferative fibrous lesion of the keratinized gingival tissue of maxillary and mandibular arches due to increase in submucosal connective tissue elements that cause esthetic and functional problems. This case report addresses the overview of gingival fibromatosis in 17-yearoldfemale. The patient presented with generalized diffuse gingival enlargement involving the maxillary and posterior teeth in mandibular arches extending on buccal and lingual/palatal surfaces of the teeth resulting in difficulty in speech and mastication since last 4-5 years. Based on the history and clinical examination, the diagnosis was made and the enlarged tissue was surgically removed.

Keywords: Idiopathic gingival fibromatosis, gingival hyperplasia

INTRODUCTION

Idiopathic gingival fibromatosis (IGF) is an uncommon, benign, hereditary condition with no specific cause. IGF is characterized by a slowly progressive, painless, non-hemorrhagic, fibrous enlargement of maxillary and mandibular keratinized gingiva.[1] It can lead to diastema, malocclusion, delayed eruption of permanent dentition or prolonged retention of primary dentition, causing esthetic and functional problems.[2] It occurs either as an isolated disease or combined with some rare syndromes or chromosome disorders such as are Zimmerman-Laband syndrome, Murray-Puretic-Drescher syndrome, Rutherford syndrome, Cowden syndrome, and Cross syndrome.[3] There are various synonyms for IGF that elephantiasis gingivae, diffuse fibroma, familial elephantiasis, idiopathic fibromatosis; hereditary gingival fibromatosis, congenital familial fibromatosis.[4]

In gingival fibromatosis the gingival tissue is usually firm, pale-pink with leathery consistency and characteristic pebbled surface. Exaggerated stippling may be present. The gingival tissues may partially or totally cover the teeth and delay or impede tooth eruption. There are pseudo-pocketing and diastema formation due to enlarged tissue.[1] There are mastication, speech impediments or lip closure difficulties in severe cases. The tissue growth is painless but may be painful when tissues are traumatized during mastication. The gingival hyperplasia may be generalised (symmetric) or localised (nodular) involving the buccal and lingual tissues of both maxillary and mandibular arches.[5] The condition commences frequently when deciduous or permanent teeth begin to erupt and is most commonly seen associated with the permanent teeth . Females and males appear to be equally affected.

Histologically, the affected tissues are generally composed of dense connective tissue rich in coarse collagen fibers and are highly differentiated with young fibroblasts and scarce blood vessels. The epithelium is hyperkeratotic with elongated rete pegs. Unusual findings include the presence of

small calcified particles, amyloid deposits, islands of odontogenic epithelium and osseous metaplasia in the connective tissue and ulcerations of the overlying mucosa.[6]

In IGF, no causative agent can be identified and a family history is lacking. If the inheritance is autosomal dominant, then the phenotypic frequency is 1 in 750,000 people and the gene frequency is 1 in 350,000.[7] This report presents the clinical features and the management of a 17-year-old female patient with idiopathic gingival fibromatosis.

CASE-REPORT

A 17-year-old female patient reported to the Department of periodontology, Govt. Dental College Srinagar with the chief complaint of swelling in the gums of the upper and lower jaw since four to five years. The patient first noticed the swelling 7 years back in the upper front region of the mouth that gradually and slowly increased in size .The patient had delayed tooth eruption of the upper and lower teeth associated with gingival swelling. Swelling was painless, but the patient complained that it interfered with chewing. There was no history of epilepsy or major illness. Developmental milestones and other systems of the patient were normal. Family and menstrual history was non contributory.

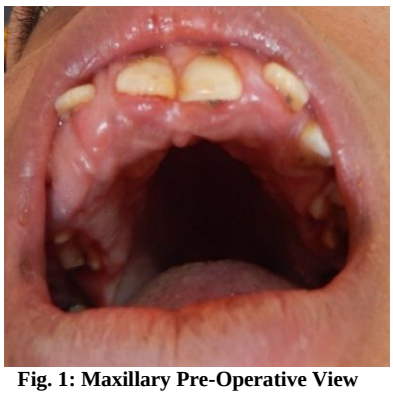

Fig. 1: Maxillary Pre-Operative View

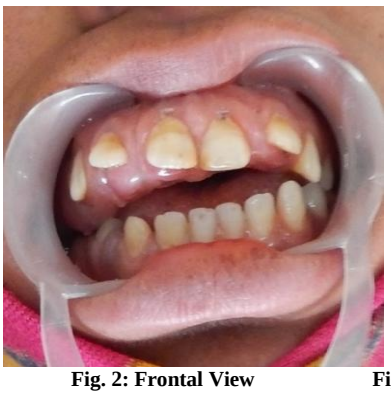

Fig. 2: Frontal View

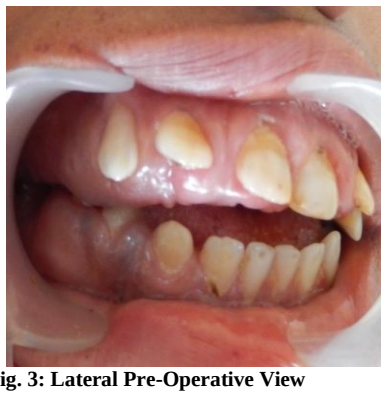

Fig. 3: Lateral Pre-Operative View

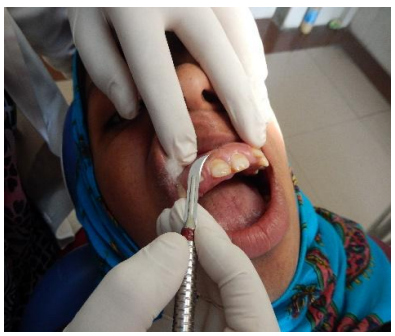

Fig. 4: Gingivectomy By Blade And Scalpel

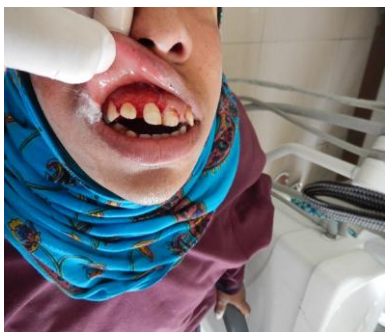

Fig. 5: Immediate Post-Orepative View

Fig. 6: Immediatepost – Operative View -Palatal

Extraoral examination: General physical evaluation was done. The patient had normal physical appearance and psychomotor skills. Patient had bilaterally symmetrical face with incompetent lips and convex profile.

Intraoral findings: Gingival enlargement was more predominant in the upper jaw and in the posterior mandibular molar region. Both facial and palatal/lingual aspects were involved in the maxillary and posterior mandibular quadrants covering almost the entire clinical crown. There was diffuse involvement of marginal, papillary, and attached gingiva. The swelling was largely pale pink, and firm, with stippling present in the anterior maxillary area and absent in mandibular posterior region. There were some calculus deposits and generalized pseudo-pockets were observed with no

bleeding on probing. The enlargement had led to incompetent lips, poor esthetics and also hindered in speech and mastication. She appeared apprehensive and lacked confidence due to gummy smile.

The dentition revealed the presence of all permanent teeth (except second and third molars) but the permanent 1st molars were grossly carious. Due to the enlargement the teeth were malaligned with spacing between them. Alginate impressions were made of both arches and then study models were obtained for the record purpose. Routine blood investigations were done that were within normal physiological range. Then written consent was obtained from the patient after explaining the procedure to be done.

The treatment plan was formulated which included phase 1 therapy, quadrant-wise gingivectomy, extraction of grossly decayed unrestorable 1st molars then followed orthodontic treatment. Thorough scaling, root planing, and curettage were done and anti-microbial rinse chlorhexidine gluconate 0.2% prescribed for 3 weeks. An incisional biopsy was done and tissue specimen was sent for histopathological evaluation which showed stratified squamous epithelium with focal keratinization with dense collagen stroma in the connective tissue. After phase I therapy quadrant-wise gingivectomy was performed with blade and scalpel under local anesthesia containing 2% lignocaine with 1:200000 epinephrine. First, the maxillary surgery was performed. The tissue was excised till desired crown lengthening was achieved along with thorough irrigation of the site was done. In some sites, additional curettage was done. The patient was prescribed anti-biotic and analgesic medication and rinse twice daily with 0.2% Chlorhexidine mouthwash for two weeks. Then mandibular surgery was performed and the patient was then placed on a schedule of periodic recall visits for maintenance care. The oral hygiene maintenance was reinforced at every recall.

DISCUSSION

Gingival fibromatosis can occur as an isolated condition or be associated with other diseases or syndromes and can be localized or generalized. The different forms can be classified as following:[8]

1. Isolated HGF
2. Isolated IGF
3. GF with hypertrichosis
4. GF with hypertrichosis and mental retardation and/or epilepsy
5. GF with mental retardation and/or epilepsy
6. GF associated with other diseases as part of a syndrome.

This article reports a case of Idiopathic Gingival Fibromatosis based on clinical appearance, non-contributory family history and histopathological evaluation in the present case. The cause of Idiopathic GF is unknown, but may result from a variety of genetic mutations, and therefore the clinical presentation of the condition differs. It can occur by either autosomal dominant or autosomal recessive inheritance or a new type of genetic mutations.[2]

In the present case the patient reported gingival growth after the eruption of permanent mandibular anteriors, gingival enlargement was more predominant in the upper jaw and in the posterior mandibular molar region. Both facial and palatal/lingual aspects were involved in the maxillary and posterior mandibular quadrants covering almost the entire clinical crown. The enlargement had influenced the alignment of her teeth resulting in diastema and malpositioning.

There is inconsistency in the literature as to the cellular and molecular mechanisms that lead to gingival fibromatosis. Some authors report an increase in the proliferation of gingival fibroblasts,[9] whereas others report slower-than normal growth.[10] Increased collagen synthesis rather than decreased levels of collagenase activity may be involved.[9] The microscopic features of the present case were classic of gingival fibromatosis, that is, hyperplastic epithelium

with elongated rete ridges and dense fibrous connective tissue stroma underneath.[11]
Treatment depends on the severity of the enlargement. Minimal enlargement is treated conservatively with routine prophylaxis, irrigation, and mouthwashes. When there is an interference with chewing or unsatisfactory appearance, treatment includes gingivectomy with internal or external bevel incision or by using electrosurgery or lasers.[12] For the present case, gingivectomy with blade and scalpel under local anesthesia and 0.2% Chlorhexidine rinse twice a day for two weeks after each surgery was done with regular follow up.

CONCLUSION

Idiopathic gingival fibromatosis is a slowly growing progressive enlargement which in severe cases affects the esthetics, speech and mastication. Early diagnosis, emphasis on conservative management, and multidisciplinary treatment protocol are important factors in the management of patients with idiopathic GF. Surgical intervention depends on the severity of enlargement followed by regular recall visits evaluate oral hygiene, and the stability of the periodontal treatment. More genetic search is needed to identify their molecular basis to rule out mode of inheritance.

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