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Idiopathic gingival fibromatosis and its management: A rare case

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ABSTRACT

Gingival fibromatosis is a rare and heterogeneous group of disorders that develop as slowly progressive, local or diffuse enlargements within marginal and attached gingiva or interdental papilla. In severe cases, the excess tissue may cover the crowns of the teeth, thus causing functional, esthetic, and periodontal problems such as bone loss and bleeding, due to the presence of pseudo pockets and plaque accumulation. Hereditary, drug-induced, and gingival overgrowth has been reported. Idiopathic gingival fibromatosis can occur as an isolated condition or as part of a genetic syndrome. The pathologic manifestation of gingival fibromatosis comprises an excessive accumulation of extracellular matrix proteins, of which collagen type I is the most prominent. This report presents a case of a 30-year-old female, with a chief complaint of overgrowth of gingiva and irregularly placed teeth who was diagnosed with Idiopathic gingival fibromatosis. This diagnosis has been based on clinical examination after ruling out family, drug, and medical history.

Keywords— *Gingival fibromatosis, Gingival enlargement, Gingivectomy*

1. BACKGROUND

Idiopathic Gingival Enlargement (IGF) also known as Hereditary Gingival Fibromatosis (HGF), elephantiasis gingiva, hereditary gingival hyperplasia, idiopathic fibromatosis, and hypertrophied gingival. It is a rare (1 in 750,000) hereditary condition characterized by slow, progressive enlargement of the gingiva. (Majumder et al., 2013).

Gingival fibromatosis is a progressive gingival enlargement caused by an overgrowth of the collagenous element of the gingival fibrous connective tissue and is of importance for cosmetic and mechanical reasons. Idiopathic gingival fibromatosis, a benign, slow-growing proliferation of the gingival tissues, is genetically heterogeneous.

The overgrowth varies from mild enlargement of isolated interdental papillae to segmental or uniform and marked enlargement affecting one or both the jaws (Tiwana et al., 2005). Clinically the enlargement exhibits a normal colour, firm consistency, non-hemorrhagic, non-exudative and asymptomatic. It has no sex predilection and can affect either of the jaw (Bittencourt et al., 2000).

2. CASE REPORT

A 30 year old female reported in the outpatient department of Periodontics, in Vydehi Institute of Dental Science, in July 2018 with the chief complaint of gingival overgrowth and malocclusion. On accounting detail history the patient revealed that the swelling initiated slowly and has assumed the present size within 4 years. There was no history of fever, medications, weight loss, deleterious oral habits, and allergies. Family history was also negative. On extraoral examination, the patient had incompetent lips, convex profile, and bimaxillary protrusion.

Intraoral examination showed thick dark swollen gums. Plaque index and oral hygiene index simplified (OHI-S) (Greene & Vermillion 1960) showed fair status. The gingival index showed good status. % of Bleeding showed less than 10% of sites. Gingival contour showed loss of knife-edge margins to rounded margins and loss of scalloping. The consistency of gingiva was firm, the size was enlarged, and the position was coronal to the cemento-enamel junction. The thickness of enlarged tissue on buccal and palatal aspects was 3 mm in posterior regions of both arches bilaterally. Generalized pseudo pockets were found in posterior regions of all quadrants. Overjet and overbite was increased. All haematological examinations were normal. OPG and CBCT revealed widening of the interdental space. There was no evidence of any bone erosion.



Fig. 1: Preoperative intraoral view

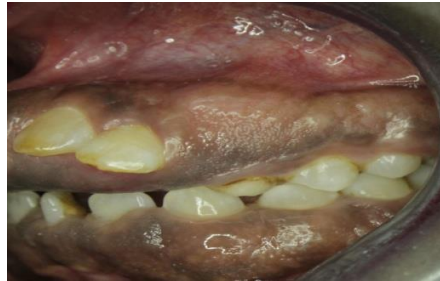


Fig. 2: Preoperative intraoral view of left maxillary and mandibular aspect



Fig. 3: Preoperative intraoral view of a palatal aspect



Fig. 4: Preoperative intraoral view of the lingual aspect

2.1 Interventional phase

Full mouth scaling was done. Considering the size and extent of enlargement, quadrant-wise gingivectomy was performed under local anaesthesia. External bevel gingivectomy was performed in association with gingivoplasty as indicated.

2.2 Surgical procedure

The facial skin all around the oral cavity was scrubbed with povidone-iodine solution and the patient was asked to rinse with 0.2% chlorhexidine. The patient was operated under local anaesthesia. Quadrant wise surgery was done. External bevel gingivectomy was performed using Kirkland periodontal knives (figure 5). The periodontal pack was removed after 1 week of surgery (figure 8). The patient was prescribed Tab Ibuprofen 400 mg twice daily and 0.2% chlorhexidine oral rinses twice daily for 2 weeks after each surgery. Seven days after surgery, dressings were removed and the site was cleaned. Interval of 2 weeks was given between successive surgeries. The gingiva excised during surgery (figure 7) was immediately fixed with 10% buffered formaldehyde solution and sent for histopathologic examination.



Fig. 5: Bevel gingivectomy



Fig. 6: Immediate postoperative view



Fig. 7: Excised tissue mass



Fig. 8: One-week postoperative view

Histopathological examination showed hyperplastic stratified squamous epithelium with thin elongated rete ridges. Underlying connective tissue showed dense fibro-collagenous tissue and mild lymphocytic infiltration. The case was diagnosed as Idiopathic gingival fibromatosis based on the clinical picture, family history, and histological findings (figure 9).

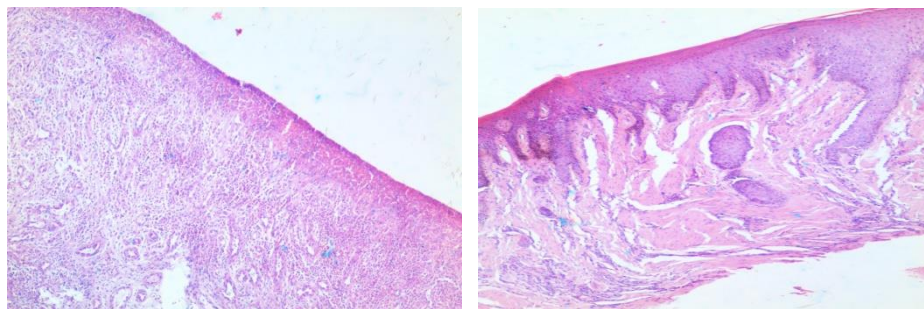


Fig. 9: Case diagnosis

The patient was pleased with the treatment outcome. Since her chief complaint had been addressed, she was willing for orthodontic treatment



Fig. 10: Postoperative intraoral view



Fig. 11: postoperative intraoral view of left maxillary and mandibular aspect



Fig. 12: Postoperative intraoral view of right maxillary and mandibular aspect

3. DISCUSSION

In this report, 30 yrs old female presented with diffuse generalized fibrotic enlargement. Family, prenatal, medical, and drug histories were non-contributory that led to a diagnosis of Idiopathic gingival fibromatosis, which was later supported by histopathological examination.

The most effective method for removing the enlarged tissue when there is no attachment loss and all the pocketing is false is the conventional external bevel gingivectomy (Ramnarayan et al., 2011). The patient was counselled for repeated follow-ups every month but it turned for 3 months only without any postoperative complications and recurrence.

The precise mechanism of idiopathic gingival fibromatosis is unknown, but it appears to confine to the fibroblasts which harbour in the gingivae. The hyperplastic response does not involve the periodontal ligament and occurs peripherally to the alveolar bone within attached and marginal gingiva. (Sapp et al., 2004). Also, it has been reported that increased proliferation and elevated production of extracellular matrix molecules, fibronectin, and type I collagen could lead to increase bulk of gingiva (Tipton et al., 1997).

The most characteristic feature of IGF is gingival enlargement of both maxillary and mandibular gingiva. The enlargement is due to fibromatosis without the bone affected which is seen in our case also (He and Ping 2012).

After surgery, the patient can undergo orthodontic treatment as necessary to provide better tooth alignment. Recurrence in patients with gingival fibromatosis is unpredictable but is most often seen in children and teenagers, rather than adults (Fletcher et al., 1966). Histopathologic findings in this case report were similar to those found in previous literature (Carranza et al., 2007).

Idiopathic gingival fibromatosis is prone for unpredictable recurrence. There could be a need for repeated surgical procedures depending upon the severity. This could affect the patient psychologically and emotionally. Henceforth, psychological counselling should be part of the comprehensive treatment plan for such patients. Moreover, the benefits of the surgery in eliminating the masticatory difficulties, providing access for better oral hygiene maintenance and significant improvement of phonetics and esthetics should not be underestimated. These views are in accordance with those of Lobão (Lobão et al., 2007) and Shetty (Shetty et al., 2010). The patient's esthetics and masticatory functions were significantly improved after surgery.

4. CONCLUSION

These cases presented the clinical features of a typical Idiopathic gingival fibromatosis which were treated with a gingivectomy. Benefits of surgical intervention are recognized to improve patient's quality of life. This is because the removal of hyperplastic gingival tissue eliminates difficulties in eating and speaking and helps in maintaining oral hygiene. It also leads to psychological benefits due to esthetic improvement.

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