Idiopathic Gingival Fibromatosis : Case Report & Surgical Management By Laser

Dr. Sunil Vyas
Professor and Head
Dept. of Oral Surgery

Dr. Vaishali Shende
Professor
Dept. Oral Pathology & Microbiology

Rungta College of Dental Sciences & Research

Abstract

Gingival fibromatosis is a idiopathic gradually progressing enlargement of the gingiva. Many cases are iatrogenic; some are inherited while others are idiopathic. We report a case of non-syndromic idiopathic gingival fibromatosis which was treated surgically by "laser".

Keywords: Idiopathic Gingival Fibramatosis, Laser surgery.

Introduction

Idiopathic gingival fibromatosis is a rare hereditary condition that has no definite cause [1]. The condition is painless until the tissue enlarges and partially covers the occolusal surface. The enlarged gingiva is traumatized during mastication. It leads to a vicious cycle of interference with the maintenance of oral hygiene and chewing. All these factors lead to accumulation of materia alba and plaque which further complicates the existing hyperplasic tissue. Idiopathic gingival enlargement may manifest as an antosomal dominant or, less commonly, and autosomal recessive mode of inheritance, either as an isolated[2-5] or as a part of syndrome[6,7].

Autosomal dominant forms of gingival fibromatosis, which are usually nonsyndromic, have been genetically linked to the chromosome 2p21-p222 and 5q13-q22. SOS-1 gene has been suggested as a possible cause of nonsyndromic gingival fibromatosis, but no definite linkage has been established (4). The autosomal dominant form is often associated with hypertrichosis, corneal dystrophy, nail defects, deafness and craniofacial deformities. Some cases may be related with mental retardation or epilepsy. Autosomal recessive form shows facial anomalies with hypertelorism with gingival enlargement.

Here we report a 16 year old female patient of a nonsyndromic gingival fibromatosis along with its surgical management (by lasers).

Case Report

A 16 year old unmarried girl reported to the outpatient department of Rungta College of Dental Sciences & Research, Bhilai with a history of gingival enlargement for the past four months. The gingival enlargement was insidious in asset and the patient neglected its growth till it became obvious. She sought dental opinions as it caused masticatary difficulties. Patient gave no history of fever and had malaria 1 & 1/2 years back. No family history. There was no history of consagious marriage. Her menstrual cycle was normal. Extra oral examination showed facial disfiguration with protruding lips. Intraoral examination revealed unilateral enlargement of gingiva on right side .The texture was rubbery. No bleeding was shown on probing. Radiographic examination revealed generalized bone loss and floating teeth appearance in the 6/6 region. Grade III mobility in 6/6 region and grade II mobility in remaining region.

Surgery

Laser surgery was performed under local anesthesia using soft tissue Diod laser (Picasa) 810Nm using different power 3 to 3.5W with interval of 30 to 40 ms. Surgery was performed in 2 stages. First (right) lower quadrant then (right) upper quadrant.

Laser surgery was used to minimize bleeding and post-operative discomfort to patient. Psychologically also it is appealing to the patient as bleeding is less. Local anesthesia was given as wattage was increased up to 4 W to cut through the fibrous tissues.

An external bevel gingivectomy was done in lower right quadrant and then upper right quadrant

Fig. 1: Pre-operative view showing gingival enlargement

Fig. 2: Post operative view after laser surgery

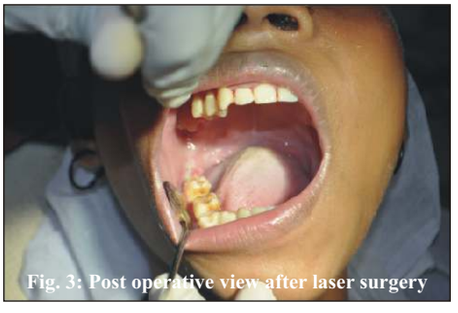

Fig. 3: Post operative view after laser surgery

Histopathological Report

Gingival mucosa from both sites revealed epithelial hyperplasia. Sub epithelial tissue consists of excessive fibrous tissue. Lower gingival tissue consists of mild to moderate lymphocytic infiltration with small number of plasma cells. On the basis of medical and family histories and the clinical findings, this was diagnosed as Idiopathic gingival hyperplasia.

Discussion

The family, medical and drug histories were non contributory to this case, it was termed as Idiopathic Gingival Fibromatosis (IGF). IGF manifests due to congenital or hereditary causes which is not understood accurately [8].

Some authors have proposed mode of transmission as mainly autosomal dominant, suggesting abnormal chromosome on phenotype 2p21[7, 9]. Various other factors are responsible for IGF including inflammation, leukemic infiltration and drugs like Phenotoin, verapamil[10], cyclosporine[11, 12], nifedapin[13, 14].

It is associated with many syndromes like combination of IGF, mental retardation, hypertrichosis and epilepsy[5,15]. Rutherford syndrome (IGF and corneal dystrophy), Laband syndrome[15] (IGF, ear, nose, nail, bone defects with hepatosplenomegaly), the cross syndrome (16) (IGF, microopthalmi, mental retardation, athetosis and hypo pigmented skin), Murray-Purelie-Drescher[16] (IGF with multiple hyaline fibromas), Jones syndrome[16] (IGF with sensory neural deafness). This patient had no clinical findings that fulfilled any of these possible syndromes.

It has also been suggested that IGF maybe due to nutritional, hormonal factors but this is not proven. Due to massive gingival enlargement an affected person may develop abnormal swallowing pattern and experience difficulty in speech and mastication.

Various treatment modalities have been proposed but the treatment of choice in this condition was gingivectomy. Laser surgery was used to minimize and post-operative discomfort to the patient.

Conclusion

Recurrence rate in IGF is very high after surgery and because of this the patient was followed up for considerable period of time. The patient was demonstrated effective plaque control method and was encouraged to maintain oral hygiene after gingivectomy procedure. As oral hygiene and a super imposition of plaque accumulation have a crucial effect on the prognosis of Idiopathic Gingival Fibromatosis.

References

1 F. A. Carranza and E. L. Hogan, "Gingival enlargement", in *Clinical Periodontology,* M. G. Newman, H. H. Takei and F. A. Carranza, Eds., pp. 279-296, Saunders, Philadelphia, Pa, USA, 9th edition, 2002

2 H. Martelli Jr., D. P. Lemos, C. O. Silva, E. Graner, and R. D. Coletta, "Hereditary gingival fibromatosis: report of a five generation family using cellular proliferation analysis", Journal of Periodontology, vol 76, no. 12, pp.2299-2305, 2005.

3 S. L. Singer, J. Goldblatt, L. A. Hallam, and J. C. Winters, "Hereditary gingival fibromatosis with a recessive mode of inheritance. Case reports", Australian Dental Journal, vol. 38, no. 6, pp. 427-432, 1993.

4 R. Chaturvedi, "Idiopathic gingival fibromatosis associated with generalized aggressive periodontitis: a case report", Journal of Canadian Dental Association, vol. 75, no. 4, pp. 291-295, 2009.

5 Horning G. M., Fisher J. G., Barker B. F., kilroy W. J.., Lowe J. W., Gingival fibromatosis with Hypertrichosis case report. Jopurnal of Periodontology 1985: 56: 344-347.

6 T. C. Hart, D. Pallos, L. Bozzo, et al., "Evidence of genetic hetereogeinty for hereditary gingival fibromatosis", Journal of Dental Rresearch, vol 79, no. 10, pp.876-883, 1998.

7 L. Bozzo, O. de Almeida, C. Scully and M. J. Aldred, "Hereditary gingival fibromatosis. Report of an extensive four-generation pedigree", Oral Surgery, Oral Medicine, Oral Pathology, vol 78, no. 4, pp. 452-454, 1994.

8 T. C. Hart, D. Pallos, D. W. Bowden, J. Bolyard, M. J. Pettenati, and J. R. Cortelli, "Genetic linkage of hereditary gingival fibromatosis to chromosome 2p21", American Journal of Hman Genetics, vol 62, no 4, pp. 1758-1764, 2000.

9 L. Bozzo, M. A. Machado, O. P. de Almeida, M. A. Lopes, and R. D. Coletta, "Hereditary gingival fibromatosis: report of three cases", Journal of Clinical Pediatric Dentistry, vol. 525, no. 1, pp.41-46, 2000.

10 Pernu H.E Oikarinen K, Hictanen J, Knuuttila M, : Verapamil induced gingival overgrowth: clinical, histological & biochemical approach Journal of Oral Pathology & med 1989:18; 422-425.

11 Rastsikchank Pluss E. M, Hefti A, LortscherR, Theil G, Initial observation that cyclosporinc A induces gingival enlargement in man. Journal of Clinical Periodontology 1983: 10: 237-246

12 Wysocki G. P, Gretzinger H. A, Lampans A. Ulan R. A, Aletler C. R, Fibrous hypcrplasia of the girtgiva a side effect of cyclosporine A therapy: Oral surg Oral Med Oral Path, 1983:55:274-278

13 Ledaman D, Lummermann H, Renhens, Freedman P. D, Gingival hyperplasia-histochemical associated with Nifedapine therapy a case report: Oral surgery, 1984:57:620-622.

14 Lucas RM, Thowell LP, Wall BA: Nifedapine induced gingival hyperplasia histochemical & ultra structural study: Journal of Periodontology 1985:56, 211-215.

15 Synder C. H. Syndrome of gingival hyperplasia, hersutism and convulsions: Journal of Pediatrics 1965:67:499-502

16 Gorlin R. J., Pindborg, Coehn jr M. M. Syndromes of Head and neck 2nd edition 1976:329-336.