A Simple and Effective Treatment Alternative in an Idiopathic Gingival Enlargement Case

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ABSTRACT

Idiopathic gingival fibromatosis is a rare condition characterized by enlargement of the gingival tissues, causing aesthetic and functional problems. The condition is caused by various factors including inflammation, neoplasia, or heredity. A 55-year-old male patient, with no previous history of drug use or family history of gingival fibromatosis, presented with a slow-growing tissue in both the maxillary and mandibular anterior-lingual sites. After the clinical examination and taking the patient's medical history, the enlarged tissue was removed with a Nd:YAG Laser surgery procedure. Tissue samples were evaluated histopathologically, revealing squamous epithelium with underlying fibrous connective tissue and inflammatory cell infiltration in the epithelium. Through clinical and histopathological analysis, the case was diagnosed as idiopathic gingival fibromatosis. Moreover, the patient was followed for 3 months and no recurrence was observed in the surgical areas. The Nd: YAG laser surgery also seemed very practical and effective.

Keywords: Idiopathic gingival enlargement, Nd:YAG Laser, treatment

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INTRODUCTION

Idiopathic gingival fibromatosis (IGF) is a rare condition of unknown etiology and pathology (1) characterized by enlarged maxillary and mandibular gingiva, causing aesthetic and clinical symptoms including pain, speech disturbances, teeth displacement, occlusion problems, increased risk of caries, and periodontal disorders. Diagnosis is based on the patient's medical, dental, and family history, and histopathological examination (2). We present the case of a 55-year-old male diagnosed with IGF in the mandibular and maxillary anterior regions treated with Nd:YAG laser surgery.

CASE REPORT

A 55-year-old male patient visited Cumhuriyet University, Faculty of Dentistry, Department of Periodontology, complaining of gingival bleeding, difficulties in eating, halitosis, and aesthetic concerns due to gingival enlargement. The patient first noticed the enlarged tissue ten years previously and reported that it slowly increased in size. His family history was not significant for disease transmission. There was no history of medications that could indicate drug-induced gingival enlargement. His physical appearance was normal and no hormonal abnormalities were observed. No traumatic habit or removable prosthesis was associated with the enlargement, nor was there any extraoral pathology. There were no other significant systemic or medical findings. Intraoral examination revealed generalized gingival overgrowths of the anterior sides of both the maxillary and mandibular arches, which affected the vestibular and palatal surfaces.

The enlarged gingiva caused teeth diastemas and covered from one-half to two-thirds of the crowns. The patient had lost his mandibular left central incisor due to trauma ten years previously. The enlarged gingiva was pink in color and firm and resilient in consistency (Fig 1a,b).

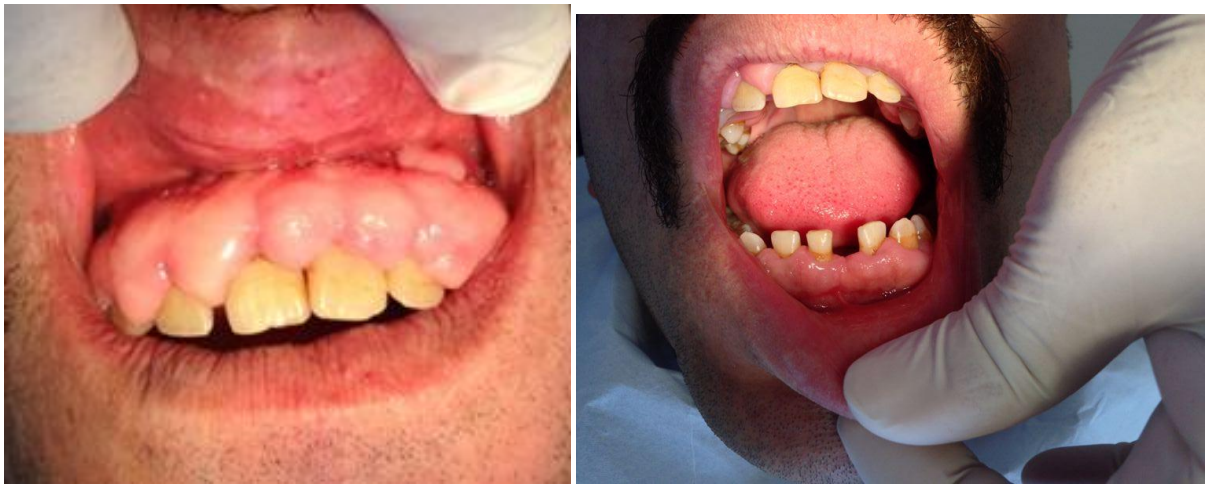

Fig. 1: Intraoral views at baseline

The patient's level of oral hygiene was poor. Before surgery, phase 1 periodontal treatment was performed in order to achieve optimal plaque control and eliminate the inflammation. The patient returned at one-week intervals for treatment to control his oral hygiene. After three weeks, the inflammation was controlled sufficiently that the enlarged gingival tissue could be removed with the Nd:YAG laser device (Deka, Calenzano Firenze, Italy). A 3-Watt, 100 mJ therapy surgical protocol was used. Postoperatively, 0.12% chlorhexidine oral rinse and an anti-inflammatory drug (twice daily) were prescribed.

The excised tissue was sent for histopathological examination. The histopathology revealed squamous epithelium with underlying fibrous connective tissue under low power magnification (×40) (Fig. 2). Fig. 2).

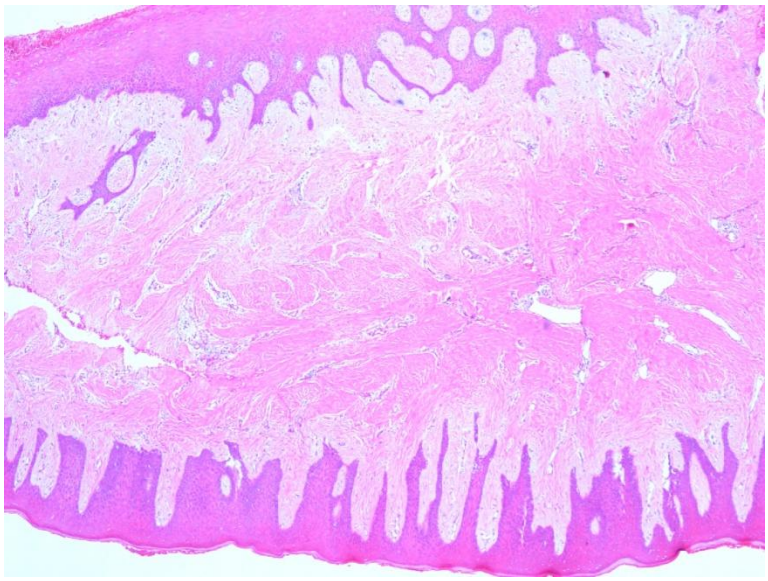

Fig. 2: Squamous epithelium with underlying fibrous connective tissue (×40)

Moreover, under high power magnification (×100), we observed inflammatory cell infiltration in the epithelium (Fig. 3).

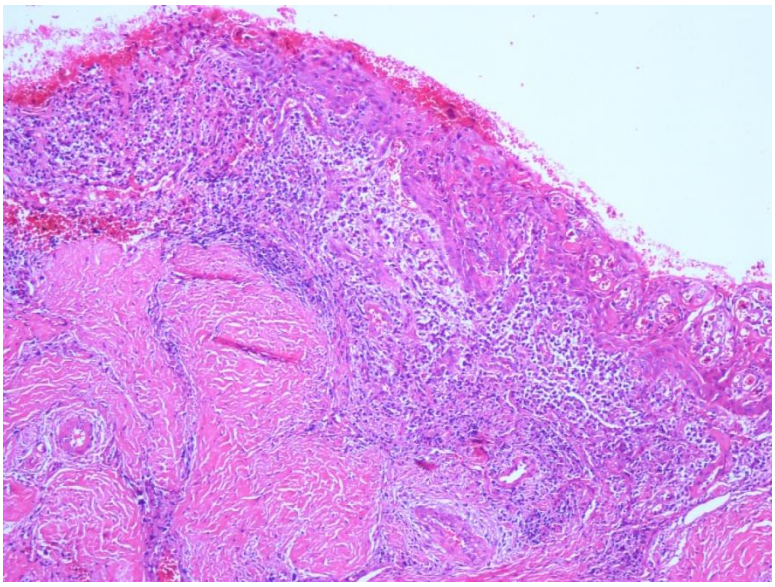

Fig. 3: Inflammatory cell infiltration into the epithelium (×100)

Good tissue healing was observed when the patient was examined one week after the surgery. The patient was examined 3 months later at a follow-up visit, and there was no recurrence and the patient seemed good clinically (Fig. 4a,b). The patient's oral health is still under control.

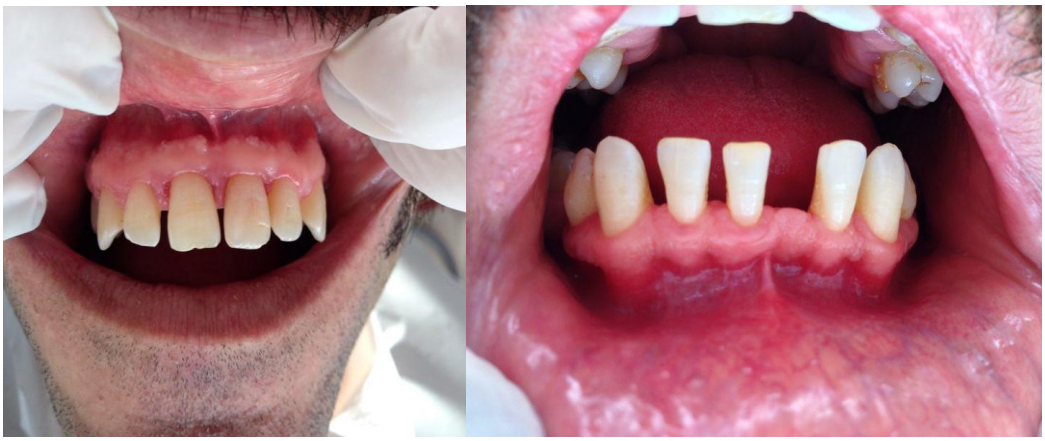

Fig. 4: Intraoral views after surgery (3 months)

DISCUSSION

The classification of the gingival fibromatosis (GF) is controversial and there is no consensus of the classification in the literature. However, Takagi at al. classified it into the following: a) isolated familial gingival fibromatosis; b) isolated idiopathic gingival fibromatosis; c) gingival fibromatosis with hypertrichosis; d) gingival fibromatosis with hypertrichosis and mental retardation and/or epilepsy; d) gingival fibromatosis with mental retardation and/or epilepsy; and e) gingival fibromatosis associated with the other diseases with formation of syndromes (3). Otherwise, gingival fibromatosis may exist as an isolated finding or as a part of a syndrome.

The syndromes associated with GF are the Rutherford syndrome (gingival fibromatosis and corneal dystrophy), the Laband syndrome (gingival fibromatosis, ear, nose, bone, and nail defects, with hepatosplenomegaly), the Cross syndrome (gingival fibromatosis, microphthalmia, mental retardation, athetosis, and hypo pigmented skin), the Murray-Puretic- Drescher syndrome (gingival fibromatosis with multiple hyaline fibromas), the Jones syndrome (gingival fibromatosis with sensorineural deafness), and the Byars-Jurkiewicz syndrome (gingival fibromatosis, hypertrichosis, and giant fibroadenomas of the breast) (4).

İdiopathic gingival enlargement is a slowly progressive disease, and the enlarged tissue may be localized to specific areas of the mouth, usually the labial gingiva around the lower molars and the maxillary tuberosity. The enlargements may involve a few teeth or all teeth according to disease severity (5).

In our case, we used the Nd:YAG laser to remove the enlarged tissue. In a case reported by Develioglu et al. (6), an atypical gingival enlargement was removed using the Nd:YAG laser and an uneventful result was achieved. That this laser type is very practical and useful is accentuated by both patient outcomes and its use by surgeons.

In the literature, several idiopathic gingival enlargement cases are reported. Similar to our case, Jayachandran et al. (7) reported an idiopathic gingival fibromatosis in a 30-year-old woman. She presented with a generalized severe gingival overgrowth involving the maxillary and mandibular arches. The patient’s medical and family history was noncontributory, and she was not receiving any medication that could contribute to the gingival enlargement. A full-mouth undisplaced flap surgery was performed. There was no recurrence during 2 years of follow up. In our case, the enlargement was located only at the anterior site of the maxillae. No reason was found for why the enlargement was located on only the anterior side in our case.

Similarly, Shetty et al. (8) reported on a 13-year-old female patient with IGF. She did not have any history of drug use. Also, her familial and postnatal history was non-contributory. After completing Phase I treatment, a quadrant-wise gingivectomy was performed under local anesthesia using four different techniques (ledge and wedge technique, external bevel gingivectomy, electrocautery, and diode laser). Use of the laser and electrocautery provided excellent hemostasis and better immediate postoperative results. We achieved a good result using Nd:YAg laser.

On the other hand, Patussi et al. (9) reported a case of hereditary gingival fibromatosis in a 6-year-old female patient. The gingival hyperplasia extended from the anterior to retromolar right mandible, surpassing the occlusal plane, which caused difficulty with lip closure and the imprint of her upper teeth on surface of the lesion. A surgical excision was performed. Histopathological analysis confirmed the diagnosis of fibromatosis. There were no signs of recurrence at the follow up approximately 20 months later. Our patient was older and the laser was used to remove the fibromatosis.

In summary, idiopathic gingival enlargement can be seen in clinical practice. Which treatment techniques best prevent recurrence is still unknown, but some practical techniques such as Nd:YAG laser could be considered in treating these cases.

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