CASE REPORT

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

H Develioglu[1], Z Akkus[1], F Göze[2]

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 analyses, 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

INTRODUCTION

Idiopathic gingival fibromatosis (IGF) is a rare condition of unknown aetiology 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 a Nd:YAG laser surgery.

CASE REPORT

A 55-year-old male patient visited the Department of Periodontology, Faculty of Dentistry, Cumhuriyet University, complaining of gingival bleeding, difficulties in eating, halitosis and aesthetic concerns due to gingival enlargement. The patient first noticed the enlarged tissue 10 years earlier 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. Neither traumatic habit nor 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 10 years previously. The enlarged gingiva was pink in colour, firm, and resilient in consistency (Fig. 1).

The patient's level of oral hygiene was poor. Before surgery, phase I periodontal treatment was performed in order to achieve optimal plaque control and to eliminate the inflammation. The patient returned at one-week intervals for treatment to control his oral hygiene. After three

From: [1]Department of Periodontology, Faculty of Dentistry, Cumhuriyet University, Sivas, Turkey and [2]Department of Pathology, Faculty of Medicine, Cumhuriyet University, Sivas, Turkey.

Correspondence: Dr H Develioglu, Department of Periodontology, Faculty of Dentistry, Cumhuriyet University, Sivas 58140, Turkey. Email: sparuski@gmail.com

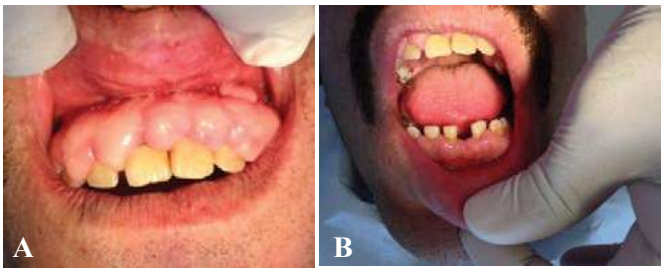

Fig. 1 (A, B): Intraoral views at baseline.

weeks, the inflammation was controlled sufficiently so that the enlarged gingival tissue could be removed with the Nd:YAG laser device (Deka, Calenzano Firenze, Italy). A 3-W, 100 mJ therapy surgical protocol was used. Post-operatively, 0.12% chlorhexidine oral rinse and an anti-inflammatory drug (twice daily) were prescribed.

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

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

Good tissue healing was observed when the patient was examined 1 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. 4). The patient's oral health is still under control.

DISCUSSION

The classification of gingival fibromatosis (GF) is controversial and there is no consensus of the classification in the literature. However, Takagi *et 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; (e) gingival fibromatosis with mental retardation and/or epilepsy; and (f) 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 hypopigmented 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).

Idiopathic gingival enlargement is a slowly progressive disease, and the enlarged tissue may be localized to specific areas of the mouth, usually the labial gingiva

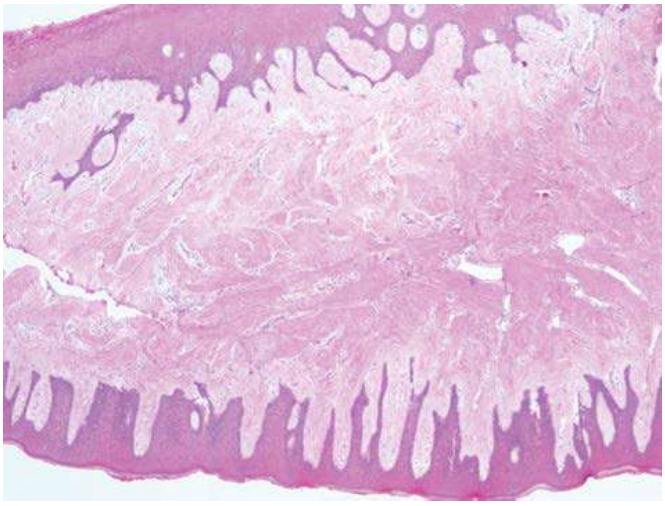

Fig. 2: Squamous epithelium with underlying fibrous, connective tissue (×40).

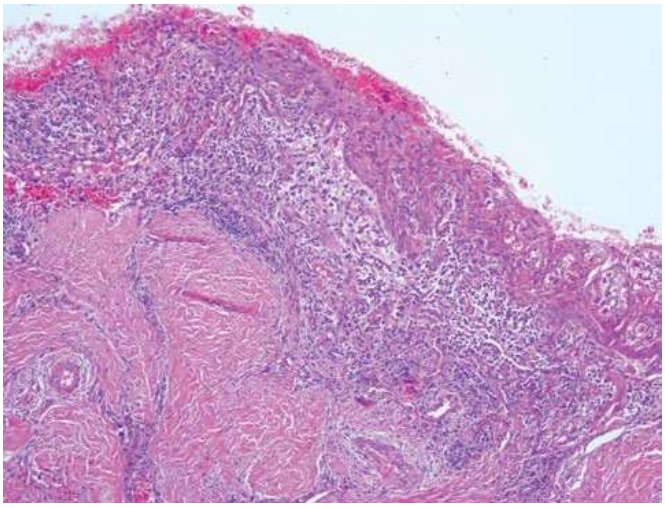

Fig. 3: Inflammatory cell infiltration into the epithelium (×100).

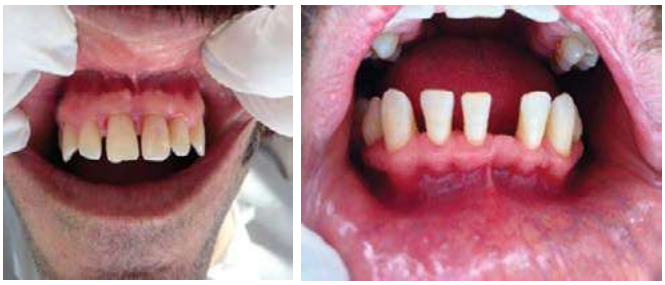

Fig. 4: Intraoral views after surgery (3 months).

around the lower molars and the maxillary tuberosity. The enlargements may involve a few teeth or all teeth according to the disease severity (5).

In our case, we used the Nd:YAG laser to remove the enlarged tissue. In a case report by Develioglu *et al* (6), an atypical gingival enlargement was removed using the Nd:YAG laser and an uneventful result was achieved. This laser type is very practical, and its usefulness is accentuated by both patient outcomes and its use by the 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 non-contributory, 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 anesthesisa, using four different techniques (ledge and wedge technique, external bevel gingivectomy, electrocautery and diode laser). The use of the laser and electrocautery provided excellent haemostasis and better immediate post-operative results. We achieved a good result using the 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 the surface of the lesion. A surgical excision was performed. The 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 the clinical practice. Which treatment techniques best prevent recurrence is still unknown, but some practical techniques such as the Nd:YAG laser could be considered in treating these cases.

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