

Case Report: Laser Gingivectomy

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Abstract

Gingival enlargement is quite a common pathology in patients and may be inflammatory, non-inflammatory, or a combination of both. Idiopathic gingival fibromatosis, although rare, is a slowly progressive benign enlargement that affects the marginal gingiva, attached gingiva and interdental papilla. The fibromatosis may potentially cover the exposed tooth surfaces, causing esthetic and functional problems. The treatment of gingival fibromatosis is essential because it causes difficulties with mastication, speech problems, positioning of teeth, esthetic effects, and psychological difficulties for the patient. Traditional gingivectomy procedures have been a challenge for dentists who confront issues of patient cooperation and discomfort. In the last decade, laser procedures in oral cavity have shown many optimum effects in both hard and soft tissue procedures. Laser soft-tissue surgery has been shown to be well accepted by patients. The following case report describes a laser-assisted gingivectomy procedure performed on a 19-year-old female.

Keywords: Diode Laser; Gingival Enlargement; Gingivectomy; Topical Anesthesia

Introduction

Gingival enlargements are quite common findings and may be inflammatory, non-inflammatory, or a combination of both. Idiopathic gingival hyperplasia is a rare condition of undetermined etiology described variously as fibromatosis gingivae, gingivostomatitis, hereditary gingival fibromatosis, idiopathic fibromatosis, familial elephantiasis, and diffuse fibroma. Diffuse gingival enlargement is also found to be associated with syndromes such as Cross syndrome, Rutherford syndrome, Ramen syndrome, and Zimmerman-Laband syndrome [1].

Idiopathic gingival fibromatosis is a slowly progressive benign enlargement that affects the marginal gingiva, attached gingiva, and interdental papilla. The fibromatosis may potentially cover the exposed tooth surfaces, causing esthetic and functional problems, and may distort the jaws in extreme cases. The condition has been classified into two forms: the first is the nodular form that is characterized by the presence of multiple tumors in dental papillae, and the other form that is symmetric results in uniform enlargement of gingiva and represents the most common type [2].

The condition may sometimes be associated with physical developmental retardation and hypertrichosis [3]. Although gingival tissue may appear normal at birth, hyperplastic gingival fibromatosis may become evident with the eruption of primary or permanent dentition, suggesting a trauma-induced tissue reaction during the eruption. The treatment of gingival fibromatosis is essential because it causes difficulties with mastication, speech problems, positioning of teeth, aesthetic effects, and psychological difficulties for the patient. The appropriate time of the removal of gingival enlargement varies [4]. Traditional gingivectomy procedures have been a challenge for dentists who confront issues of patient cooperation and discomfort.

In the last decade, laser procedures in oral cavity had shown many optimum effects in both hard and soft tissue procedures. Laser soft-tissue surgery has been shown to be well accepted by patients. The following case report describes a laser-assisted gingivectomy procedure performed on a 19-year-old female.

Case Report

A 19-year-old girl with the chief complaint of her gummy smile. An intraoral examination revealed a moderate-to-severe gingival overgrowth (Figure 1) of a flabby, dense, and fibrotic consistency that involved labial surface of both the maxillary and mandibular arches (anterior teeth). Nothing in the patient’s medical and family history seemed related to the condition. The patient was not receiving any antiepileptic, antihypertensive, or immunosuppressive medications that could contribute to the gingival enlargement. Her weight and height were considered to be within normal limits. She did not appear to have any mental impairment. The peripheral blood results were normal and thus correlated with an absence of any history of systemic disease.



Figure 1: Anterior View.

Treatment

When the enlargement is minimal, a good scaling of teeth and homecare may be all that is required to maintain good oral health (Figure 2-4). C.T. was taken for the patient to show the length of the gum that should be removed, primary impression was taken to get a study cast to form a surgical guide to cut the excess tissues.



Figure 2: C.T. Before Gum Contouring.



Figure 5: One Month Post-Operative.

Conclusion

Lasers can be applied in esthetic procedures, such as the recontouring or reshaping of gingiva and in hyperplasia. Using lasers, the depth and amount of soft-tissue ablation is more precisely controlled than with mechanical instruments. In particular, the DIODE laser is very safe and useful for esthetic periodontal soft-tissue management due to its clear-cut ablation of soft tissues as well as fast and favorable wound healing.

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