

CASE REPORT: Lower Lip Frenectomy and Vestibuloplasty

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ABSTRACT

Periodontal reconstructive surgical procedures seek to correct mucogingival defects, including gingival recession. Predictable and optimal coverage of exposed root surfaces is therefore an important goal in periodontal plastic surgery. The frenulum exerts a pull upon the tissue and can lead to the continuation of the lesion, and keratinized tissue provides increased resistance to the periodontium. Various techniques have been used to deepen the vestibule and increase the keratinized mucosa.

In these three case reports we describe the use of Nd:YAG laser (AT Fidelis, Fotona d.d. Ljubljana, Slovenia) on correcting frenulum pull and increasing the keratinized mucosa around affected teeth using a frenectomy and vestibuloplasty procedure.

Article: J. LA&HA, Vol. 2014, No.1; pp.55-56.

Received: April 15, 2014; Accepted: May 22, 2014

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Printed in Europe. www.laserandhealth.com

I. CASES

a) Case 1

A 16-year-old girl was referred from the orthodontic department due to a short frenulum of the lower lip and gingival recession on tooth 41. At the time of the first visit, she was in the active phase of orthodontic treatment with a fixed orthodontic appliance (Fig 1a). After a complete periodontal examination, we decided to perform a frenectomy of the lower lip along with a narrow vestibuloplasty below tooth 41 to increase the width of the keratinized gingiva (Fig 1b). The Nd:YAG laser settings were 5 W, 40 Hz, SP, 300 µm. Healing was uneventful and resulted in a firm keratinized-like mucosa after one month (Fig 1c).



Fig. 1: Case 1

b) Case 2

A 22-year-old female was referred from her dentist because of recessions on teeth 32 and 31 as well as a high insertion of the lower lip frenulum close to the gingival margin on tooth 31. The frenulum pull along with the shallow vestibule caused a gingival recession of 3 mm on tooth 31 (Fig 2a). The Nd:YAG laser (5 W, 60 Hz, SP, 300 µm) was used to cut the frenulum and to deepen the vestibule by denuding the underlying periosteum (Fig 2b).



Fig. 2: Case 2

Healing was completed without complications in two weeks, and no medication was needed.

c) Case 3

A 24-year-old male with gingival recession on tooth 31 was referred for periodontal treatment. A lack of keratinized gingiva on tooth 31 determined the type of recession as a Miller Class II recession with the peculiarity of two minor frenula inserting on the free gingival margin of tooth 31 (Fig 3a). To reduce the pull of the two minor frenula, Nd:YAG laser-assisted (5W, 60Hz, SP, 300 μ m) frenectomy and vestibuloplasty were performed (Fig 3b). Normal healing, resulting in firm scar-like tissue formation, was completed in two weeks.



Fig. 3: Case 3

II. CONCLUSIONS

This article presents cases of frenulum pull causing gingival recessions that were corrected with laser-assisted frenectomy accompanied by a vestibuloplasty procedure. The surgical procedure produced a narrow band of keratinized-like tissue that reduced the progression of the gingival recessions. The Nd:YAG laser seemed to be, due to its cutting ability and hemostatic effect, the appropriate tool for resolving oral soft-tissue defects.

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