The treatment of prominent frenulum with diode laser 940 nm

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_Labial frenectomy is a common surgical procedure in the field of oral surgery. Labial frenectomy is a procedure usually for orthodontic and prosdonthontic reasons. Diode laser are portable, compact, efficient, with good bactericid and coagulation properties. Diode laser have a wavelength between 810 and 980 nm. They can be used in the continuous as well as pulsed mode with a contact or non contact handpiece.

The aim of this study was present the efficacity of diode laser 940 nm for treatment of prominent labial and lingual frenulum and to demostrate healing characteristics after laser surgery.

_Materials and methods

Ten patients with prominent labial and lingual frenulum are included in this report (Figs. 1 & 2). All patients are treated with diode laser 940 nm in the Dental University School in Tirana, Albania. The technique of frenectomy was used under local anesthesia (lidocaine 2 % 1cc). Informed consent was obtenaid from all patients.

Laser settings were: fiber optic 300 micrometer, cw, 4 W. The laser fiber was applied vertically and laterally to the frenulum initially causing disruption of the mucosa continuity This easily allowed performing a deeper cut of the frenulum in a horizontal dimension. The design of the frenectomy was rhomboid and the whole procedures were performed in about four to five minutes. No sutures were required in any cases. In addition the ice was applicated to avoid the increase of tissue temperature and control necrosis in the tissue. All clinical were examinated in one week, three weeks and three months after surgery. Postoperative complications such pain, bleeding, swelling, scar formation as well as would healing characteristics were evaluated.

_Results

No bleeding was observed either during treatment or during the healing period (Figs. 3, 4 & 5). One week after surgery a superficial layer of bibrine was observed in all clinical cases. No postoperative pain and swelling were not recorded. Three weeks after surgery oral mucosa was completely healthy. No scar tissue formation in any case was observed. In long term follow-up the oral mucosa in all clinical cases looked normal in colour and consistence (Figs. 6 & 7).

Fig. 1_Prominent frenulum of tongue.
Fig. 2_Prominent labial frenulum.
Fig. 3_Moment of treatment (bleedless).
Fig. 4_Moment of treatment (bleedless).


Fig. 1


Fig. 2


Fig. 3

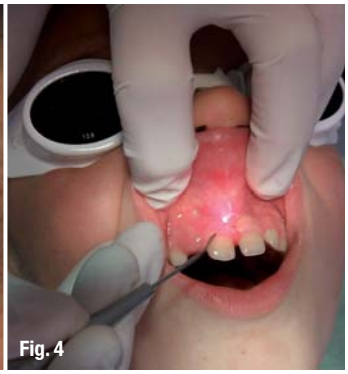

Fig. 4


Fig. 5


Fig. 6


Fig. 7

Fig. 5_Immediately after the treatment.
Fig. 6_Healing after three months (follow-up).
Fig.7_Healing after three months (follow-up).

_Discussion

Frenectomy is a common procedure in the field of oral surgery. The advantages of laser surgery includes higher precision, less pain, bleeding, swelling and scarring. The procedure is quick, safe, easy to perform in an outpatient set and no sutures are required. All patients were satisfied with the treatment and the results obtained. Diode laser is of beneficial effects like small, compact, portable to move easily from operatory to operatory.

_Conclusion

The technique of frenectomy is easy, fast and safe to be performed with diode laser 940 nm. It could be done in outpatient clinic with local anesthesia, with good degree of acceptance by the patients and perfect results._

_contact laser

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