# Er:YAG laser soft tissue remodeling

**FLORIO[2] G., BRANCATI[2] R., DE GREGORIIS[2] R., SEMEZ[1,2] GF., FORNAINI[1,2] C.**

**C.L.O.D. –Centri Laser di Odontoiatria e Dermatologia (Italia) [1]**

**UFR Odontologie, LASIO, Université de Nice Sophia Antipolis (France) [2]**

**CLINICAL REPORT**

## AIM OF THE STUDY

The aim of this clinical study was to evaluate the ability of an Er:YAG laser (2940nm) light in remodeling hypertrophic soft tissues.

**Er:YAG laser Fidelis Plus™ (Fotona, Slovenia) -No Air/water spray**

**Vestibular hypertrophy (mandible)**

- **Energy: 280 mJ.**
- **Frequency: 20 Hz/ 2 Hz**
- **Mode : VPS (100µsec.).**
- **Non contact mode: mirror handpiece.**
- **Spot diameter: about 3 mm.**
- **Theoretical Power Density 566 W/cm².**
- **Theoretical Fluence: 4,04 J/cm².**
- **Pulses number : 2800.**
- **Laser working time: 140 sec.**

**Maxillary hypertrophy**

- **Energy: 250 mJ.**
- **Frequency: 20 Hz/ 2 Hz.**
- **Mode : VSP.**
- **Handpiece: non contact, mirror handpiece.**
- **Spot size: about 2.5 mm.**
- **Theoretical Power Density: 186 W/cm².**
- **Theoretical Fluence: 5,2 J/cm² .**
- **Pulses number: 715.**
- **Laser working time: 35,76 sec.**

**Maxillary hypertrophy**

- **Energy: 300 mJ**
- **Frequency: 20 Hz.**
- **Mode : VSP -100 microsec.)**
- **Handpiece: no contact miror handpiece.**
- **Spot diameter: about 3 mm.**
- **Theoretical Fluence 4,3J/cm²**
- **Number of pulses: 880**
- **Laser working time: 44 sec.**

## DISCUSSION

Rapid and extemporaneous technique with the following benefits:

- Lack or severe bleeding;
- No suturing;
- Reduction or absence of pain;
- Reduced post operative oedema;
- Fast recovery;
- Absence of thermal damages.

The variety of the potential applications for this wavelength has been studied and the interest about its use in dental practice has increased among practitioners.

## BIBLIOGRAPHY

Ishikawa I., 2004: potential application of Er-YAG laser in periodontics.

Ishikawa I et al., 2003: effect of Er: YAG laser in periodontal therapy .

Arnabat D et al.,2003: Er:YAG. applications in the second phase of implant surgery: a pilot study in 20 patients.