



LASERS

SUBABLATIVE LASER THERAPY: A HISTOLOGICAL STUDY ON HUMAN SKIN

Aldo Toschi⁽¹⁾ - Marcelo L. Balancin⁽²⁾

Instituto Brasileiro De Controle Do Cancer, Dermatology And Cutaneous Oncology, São Paulo, Brazil⁽¹⁾ - Universidade De São Paulo, Patologia, São Paulo, Brazil⁽²⁾

Introduction: Erbyum-Yag 2940nm and Neodymium 1064nm can be used on superlong and fractioned pulses. Due to the greater affinity with water, hemoglobin, dermal proteins and pigments, we can provoke the physical phenomenon of absorption and dispersed dispersion of light. Thus, we can provide heat to perform sub-ablative and non-ablative effects at the dermo-epidermal junction, deeper layers of the dermis and cutaneous fat. For aesthetic and legal reasons, there are few human histological studies that can substantiate and sustain clinical outcomes.

Objective: To confirm and compare histological changes with this technique in the same patient at the same time. Define the laser parameters that can be used to achieve the same results.

Materials and methods: A white man of 58 years with laxity and bloating, which will be submitted to abdominoplastic surgery, agrees with the treatment and skin biopsies after signing the Informed Consent.

Preclinical clinical pictures, 18 days and 42 days after treatment were taken.

Erbyum 2940nm, 3.0 Joules / cm², 250 milliseconds, fractional pulse, 6 passes / area, under topical anesthesia. In addition, NdYag 1064nm, superlonged assisted pulse (1 second / pulse) was performed. Skin biopsy was stained for Hematoxylin and Eosin, Masson Trichome, Picro-Sirus and Voerhoeff.

Results: Subablative therapy led, in 42 days, to a pattern of dermal collagenation and epidermal thickness similar to that of non-injured skin from the start of treatment.

Elastic fibers did not show changes until 42 days.

Conclusions: Moderate fluids can prevent epidermal destruction, with good rearrangement of collagen fibers. Elastic fibers did not show changes in a single session. More sessions are usually indicated and subsequent changes in elastic fibers should be investigated. Subablative therapy was easily tolerated under topical anesthesia

