

Use of the Fraxis® Fractional CO2 laser in a dermatologist private practice

Dr. Michael Naouri^{1,2*} ¹ Dermatology practice - Laser Centre Nogent sur Marne, ² International Laser Skin Center - Paris (CLIPP), Paris, France

Introduction

The CO2 laser has experienced a revival since the introduction of the fractional technology. The Fraxis® CO2 laser is a new high potential CO2 laser. The aim of our study was to determine the main indications and frequency of use in a dermatologist office.

Method

Monocentric retrospective study conducted over a period of 2 months. The inclusion criteria were: patients who benefited from a treatment with CO2 laser in continuous, pulsed or fractional mode for an indication validated by at least one publication. The exclusion criteria were indications uncommitted.

The laser used was the Fraxis® CO2 laser (Ilooda, Korea) emitting at 10600 nm and based on a RF excited laser tube technology developed by Synrad company (USA).

Results

68 patients were included for 15 different indications. Indications and treatment parameters were:

Uses in surgical mode (continuous or pulsed)

- 21 epidermal lesions (9 seborrheic keratoses (Fig. 1), 3 solar lentigines, 2 verrucous papillomas of the eyelids (Fig. 2), 7 warts) and 1 vascular (1 ruby angioma): pulsed mode (50 on, 50 off), power 0.5 to 2W, defocused 1-3 cm 1-3 passes, end point: the disappearance of the lesion
- 8 dermal lesions (4 xanthelasmas (fig 3), 3 syringomas, 1 sebaceous adenoma) pulsed mode (50 on, 50 off), 3 to 5W power defocused 1-3 cm 1-10 passes, end point: destruction of the lesion
- 4 resistant warts (Fig. 4 and 5): pulsed mode (100 on, 100 off, 5 to 10W power defocused at 1-3 cm, 5 to 10 passes, end point: viewing of the dermoglyphes or complete destruction of the lesion
- 5 laser incisions (3 cysts, 2 resections in patients treated with antiplatelet) : pulsed mode (50 on, 50 off), 5 to 10W power, focused (handpiece 0.1mm)

Uses in Fractional mode

- 19 scars (9 acne scars (Fig. 6), 9 atrophic scars (Fig. 7), 1 burn scar), 4 photorejuvenation (2 periorbital laxity (Fig. 8), 2 neck and hands laxity) and 3 stretch marks : fractional mode, power: 35 to 105 mJ/mtz, pulse duration between 1 and 3 ms, spacing 0.5 to 1 mm, 1-2 stack. In case of acne scars, treatment with 2 passes: first pass at low energy and close spacing between dots on scars to enhance dermabrasion effect, second pass high energy and large spacing (low density) over the entire area to enhance the remodeling effect.
- 1 "laser peel" in fractional mode, 17.5mJ/mtz energy, pulse duration to 0.5ms, 0.8mm spacing
- 1 penetration for pre-photodynamic therapy

Discussion

Our study shows a high frequency of use (more than 2 patients per day) of the Fraxis® CO2 laser in some very varied indications both in the medical and aesthetics fields. It should be noted that all treatments were routine requests, far from exceptional conditions for which the CO2 laser often seems confined. This confirms its important place in the armamentarium of the dermatologist for the benefit of service to patients in treating medical indications. Fraxis® CO2 laser is a reference in terms of comfort and safety for treatment of various benign indications as well as profitability in aesthetic indications. The advantage of the Fraxis® CO2 laser is its reliability of use, robustness, and power related to its RF emission tube.

Conclusion

The Fraxis® CO2 laser is versatile, usable in pulsed or fractional mode, reliable and very useful in dermatology and aesthetic.

Figures:

Seborrheic keratoses (fig 1)



Verrucous papilloma (fig 2)



Xanthelasma (Fig 3)



Wart (fig 4a)



Wart 1 (fig 4b)



Wart 2 (fig 5)



Acne Scars and large pores (Fig 6a)



Back acne scars (fig 6b)



1 month after treatment 1



1 month after treatment 2

Atrophic scar (fig 7)



Periorbital laxity (fig 8)

