

USING THE FRAXIS[®] FRACTIONAL CO₂ LASER



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Dr Zdenko Zamboj discusses his experience of using the Fraxis fractional CO₂ laser in his practice, and the excellent results. It can give for a number of dermatological and aesthetic indications

THE CO₂ LASER HAS great potential in plastic surgery, dermatology and many other surgical specialities.

Vaporisation of the tissue is very effective. Almost no bleeding makes the field of operation very clear for the practitioner. Of utmost importance is the fact that the unwanted tissue destruction depth is very well controlled and penetrates only several microns into the tissue. As a result, the healing process is much faster and painless.

Methods

This was a monocentric retrospective study conducted over a period of 1 year. The inclusion criteria were: patients with benign cutaneous tumours; warts; benign skin marks; and all patients who benefited from a treatment with CO₂ laser set in 'normal' or 'fractional' mode—those with enlarged pores, acne scars and 'tired skin' who needed rejuvenation.

The laser

The Fraxis CO₂ laser 10 600 nm and based on radiofrequency (RF)-excited laser tube technology developed by USA company.

Fraxis uses fractional and normal (surgical) handpieces. The fractional handpiece is usually used for skin rejuvenation, and the normal handpiece is intended to treat dermal lesions. The normal

handpiece can be used in different modes: pulse, pulse single, ultra pulse, and continuous.

Over 500 patients were treated for 20 different indications:

Results

Normal handpiece

The great advantage of Fraxis CO₂ laser treatment is that vaporisation of the tissue is not followed by bleeding. This results in a much faster healing process and minimises the risk of infection. Over 500 patients were treated in this study and only three cases of infection were recorded, all of which occurred after treating resistant warts located at plantar site of the foot. These lesions require more aggressive treatment and deeper vaporisation of tissue.

Fractional handpiece

The proper settings using fractional mode depend on other factors: indication for treatment, skin phototype, skin texture, skin elasticity, and age.

In general, it is possible to say that the more evident remodelling of skin collagen we want to achieve, the more energy needs to be delivered to a proper depth of the skin.

Patients asking just for skin rejuvenation were treated with the fractional handpiece with minimally-aggressive settings, some of which do not even require

anaesthetic cream to be applied before treatment. The healing process lasts for 2-3 days, until epithelisation is complete. To achieve long-lasting results, more than two sessions are recommended, with 6-8 weeks between each treatment.

Discussion

It is quite easy to learn how to manage treatment with Fraxis. I find using the 'ultra' mode more helpful than the 'pulse' mode (surgical handpiece) for treating of epidermal and dermal lesions. After treating many patients with both modes, I found that using the 'ultra' mode makes the operation field more transparent for doctor as the treated tissue is not 'carbonised' as with the 'pulse' mode. The healing process is also faster. Using the 'pulse' mode requires a little more experience with Fraxis, but can bring nice results.

Conclusions

I find Fraxis to be a very helpful and reliable device. More patients can be treated in a shorter time compared with conventional surgery. The accurate laser beam allows me to treat lesions smaller than 0.5mm in diameter. It is difficult to recognise treated lesions after 6-8 weeks. This means that the proper use of Fraxis gives good aesthetic results.



(A) Facial wart before treatment
(B) immediately after treatment
(C) 2 months post-treatment