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Erbium yttrium aluminum garnet (ER: YAG) for acne lesion treatment

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Abstract

ER:YAG laser wavelength (2940 nm) was used to treat acne scars of a different type. The laser is stronger than Nd: YAG or IPL. Through, the use of the procedure, the laser beam is late engaged by the skin, particularly those lasers in superficial treatment. Hence there are several different characteristics related to the layer of the skin, such as stimulating the skin. The review article is about technique.

Keywords: Acne –technique-scar-layer

1- Introduction

ER: YAG laser wavelength (2940 nm) has been applied to various forms of acne scar treatment. The laser is better than Nd: YAG or IPL. Specifically in superficial treatment these lasers are absorbed by the skin process later. Hence, it is said that there existed some non-similar characteristics that has a relation to the layers of skin, like the skin stimulated. This research mentions the scientific aspects of using Er : YAG laser, its favored use in dermatology [1]. As well as possible dangers and side-effects.

Wavelength: - It is to use outside wavelengths important for adults with no white skin. The short (λ) are absorbed by the melanin in the skin. The photon laser effected by the pigmentation as hemoglobin. The long waves short maybe suitable to shallow tattoo deletion.

Beat term: - The beat profundity depend on the TRT of acne.

Fluencies: - vitality per join together area.

Measure point: - the measure of the spot laser pillar depended on the surface of skin break out and a few of the scrambling beam.

Recurrence: - Number of waves per time (HZ).

Control thickness: - Number of photo vitality of assimilation by extraordinary cross-section range of treatment tattoo beneath treatment time.

2- ER: YAG

The fractional ER: YAG offers accurate tissue ablation with minimal thermal damage. It emits 2940 nm wavelength and even higher water absorption, resulting in more superficial depth compared to CO₂ and less collateral thermal damage [2].

2.1-Non ablative resurfacing



As an elective to routine ablative reemerging, non ablative laser set up no ablative strategies initiate cautious warming of profound dermal layers whereas protecting the skin through being cool[3].

2.2 Ablative fractional laser

This technique is ablative fractional laser, using Eripium Yttrium garnet crystal like carbon dioxide Co2 technique [4].

3-Laser effect on skin

These reactions are the main reactions in the skin layer under laser application due to the ability of the skin layer body in humans to a variety of photon laser wavelength (λ). The type of reaction is photothermal chemical and acoustic mechanical, depending on the difference in tissue temperature. This type used to remove toxic in the skin is called a photodynamic reaction used in the lesion of urinary bladder [4].

4- Selective photo- thermolysis

Anderson is the first one who talks about thermolysis. It clearly alludes to the neutral of the voting diversion of the tissues structures , that happens through the interacting of the heat, that is decided by the light which is considered as the main reference to its limits, that is put into consideration in arrange to attain the thermolysis of the photo selection.

4-1 the length of the wave: - Alludes to the area of the profundity of the penetration, amid the dermis and the epidermis figure (1).

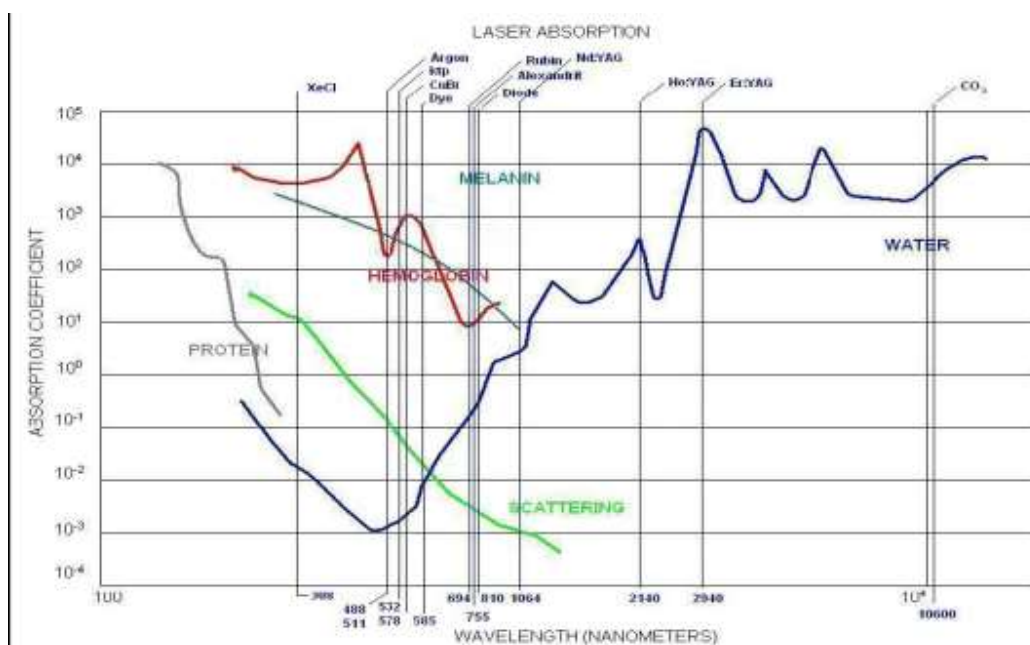


Figure (1) wave length and absorption coefficient

2-4Beat duration:-This is assessed by utilizing the warm unwinding time (TRT).

4-3 the point of size: - Alludes to the scramble of the negligible laser pillar, and the profound dermal figure (2).

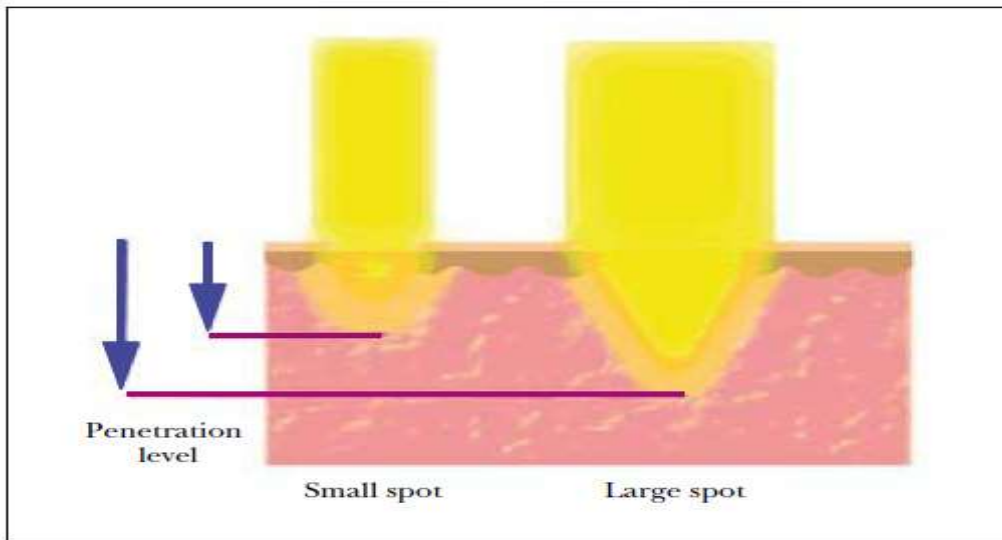


Figure (2) relation between penetration level and size spot

4-4 The framework of being cool: - it incorporates air cooling or cooling gels connected to the shallow.

5- Treatment of acne scarring

Er: YAG laser used to remove acne by way of no skin surface ablative compared to (1064 nm) Nd: YAG laser [5,6,7,8]. These acne scars have developed in the last sessions after many beam treatments in the mouth [9].

Conclusion

Safety and thermal effect of fractional ER: YAG for session laser treatment of acne scar. For treating the acne scar in persistent, fractional ER: YAG photo thrombolysis can be safe and effective. Fractional ER: YAG photo thrombolysis has been related to the important of improving in the entrance of all acne marks. Laser light interaction with skin laser is the electromagnetic beam.

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