



Alternative Laser Protocols for the Treatment of Actinic Lichen Planus

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Introduction:

Actinic lichen planus is a variation of cutaneous lichen planus. It is an inflammatory cellular disease of unknown cause, characterized by the presentation of violaceous erythematous blemishes or lichenoid papules and plaques in areas with sun exposure, predominantly in the face, neck and hands. It is relatively more frequent in tropical and subtropical regions. Its prevalence is unknown and is more common in young adults, especially in dark skin phototypes. Although it has a benign evolution, the aesthetic alteration it creates generates self-esteem disorders in those who suffer from it. Various treatments have been described for this pathology with variable results. I present here two cases successfully treated with the Fotona 1064 nm Nd:YAG laser in both FRAC3 and Q-Switch mode. One of these patients received an additional treatment step with fractional Q-switched Nd:YAG with a FS20Ad handpiece.

Laser	Fotona StarWalker MaQX		
	Step 1	Step 2	Step 3
Wavelength	1064 nm	1064 nm	1064 nm
Handpiece	R28d	R28d	FS20Ad
Fluence	0.5 – 1.5 J/cm ²	20 J/cm ²	4-5 mJ/pixel
Mode	MaQX-1	Frac 3	MaQX-1
Frequency	10 Hz	2 Hz	5 Hz
Passes	3 complete passes	2 complete passes	1 pass reaching light petechial bleeding
Spot size	8 mm	6 mm	9x9 px
Sessions	1 session per week for 10 weeks		



Dr Carlos Bravo is a Costa Rican dermatologist focused in clinical, surgical and aesthetic dermatology. He is passionate for laser applications and routinely uses both long pulse and Q-switched Fotona laser platforms in his daily practice as Medical Director of the Dermatología Integral de Costa Rica clinic. He has held positions as professor in Dermatology for several universities and is a former president of the Costa Rican Dermatology Society.

CLINICAL CASE #1:

A 45-year-old female, phototype III, presenting asymptomatic violaceous erythematous blemishes in the face and neck with 6 months of evolution. Skin biopsy and direct skin immunofluorescence confirmed the diagnostic of actinic lichen planus. Phototest and contact patch testing discarded the possibility of Riehl's melanosis.



CLINICAL CASE #2:

A 47-year-old female, phototype IV, presenting asymptomatic violaceous-greyish erythematous blemishes in the face and neck with 12 months of evolution. The same tests were performed as in clinical case #1.

Treatment Procedure:

In both cases, the treatment combined a Q-Switched Nd:YAG to improve the post-inflammatory hyperpigmentation secondary to the pathology and Frac3 1064 nm laser with 0.3 ms pulse duration to diminish inflammation and micro-vascularity, which conduce persistent autoinflammation. In the case of patient #1, only steps 1 & 2 of the protocol were performed. In the case of patient #2, a third step with a fractional handpiece (FS20Ad) was added. This was the second chronological case, and having obtained a good result with the first one, I decided to include this step to accelerate the response to hyperpigmentation, considering also that the second case was more severe.

Sessions were scheduled in weekly intervals to achieve a quick incremental effect, avoiding the use of higher fluences that could potentially provoke hyperpigmentation or a rebound effect.

Results:

After each session a light erythema was observed that lasted only a few hours. The patients noted significant clinical improvement after the sixth session. Currently both patients are under remission receiving preventive sessions every 3 months during the past 12 and 6 months respectively, using the same treatment parameters. They are treated with sun block, hydrating cream and tacrolimus ointment 0.1% applied at night every other day.

Having tested these two alternative protocols I can conclude that both have been successful, but if the FS20Ad handpiece is available, it is preferable to apply the third treatment step to achieve greater effectiveness in less time.



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