



Treatment for Prolonged Erythema from Chemical Peeling with Long-pulse Nd:YAG Laser

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Introduction:

This patient is a 24-year-old male with Fitzpatrick skin type III who presented with a year-long condition of post-inflammatory erythema. He had gone to a beauty parlor where he underwent salicylic acid peeling and subsequently developed erythema on both side of his cheeks. 1 week after the procedure, he noticed that his cheeks were still erythematous despite diligent and careful post-procedure care. His pharmacist prescribed hydrocortisone cream but there was no improvement after 2 weeks of application. He ended up living with the prolonged erythema and eventually decided to give laser therapy a try.

Laser	SP Dynamis	
	Step 1	Step 2
Wavelength	1064 nm	1064 nm
Handpiece	R33-T	R33-T
Mode	VERSA	FRAC3
Spot size	3 mm	6 mm
Fluence	45 J/cm ²	15 J/cm ²
Pulse duration	25 ms	0.6 ms
Frequency	3 Hz	5 Hz
Endpoint	Erythema	Erythema
Passes	1 pass	3-5 passes
Sessions	3 sessions at 1 month interval	



Dr. Wong Yeut Sun completed his medical training at the National Defense Medical Center in Taipei, Taiwan in 2011. From 2011 to 2013 he performed internships in the Dermatology Department of Tainan ChiMei Hospital and the Plastic Surgery Dept. of Taipei Veteran General Hospital. After working as a Medical Officer at the Sungai Buloh and Tawau hospitals, he began his current position in 2017 as an aesthetic physician in the Davinci Clinic at the National Taiwan University Hospital in Taipei.

CLINICAL CASE:

The first step of treatment was to target the cheek area to reduce vascular structure, using the R33-T handpiece with a spot size of 3 mm, fluence 45 J/cm² and frequency 3 Hz. 1 pass was done with no overlapping. The second step of treatment was to target the cheek area using the R33-T handpiece with spot size 6 mm, fluence 15 J/cm², pulse duration 0.6 ms and frequency 5 Hz, using 3 passes with no overlapping. This step was to reduce inflammation and promote collagen remodeling. A total of 3 treatment sessions were performed with 1 month interval. The post-procedure pictures were taken 1 month after completion of the 3 sessions. EMLA cream was applied for 30 minutes prior to each session and cold air was used to mitigate the pain. Moisturizer and sunscreen were applied to the patient after treatment. The patient was advised to avoid long periods / extreme sun exposure. The patient came back for follow-up 1 month after the 3 sessions and was satisfied with the result, reporting that the erythema subsided gradually over the course of the treatment and that skin dryness had improved along with the skin barrier. No complication was observed. As a conclusion, this case demonstrated that long-pulse Nd:YAG laser is a safe and effective tool for treatment of post-inflammatory erythema.



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