



Single Session of Long-Pulse Nd:YAG Laser for Treatment of Facial Rosacea

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Introduction:

This patient was a 29-year-old male with Fitzpatrick skin type III who presented with a case of facial rosacea for the past 3 years. He was suffering from a flushing appearance with a burning and stinging sensation. He tried topical metronidazole for 3 months, but no improvement was seen. His expectation was to reduce the redness and get rid of the symptoms. He preferred a non-drug treatment in this case, therefore, long-pulse Nd:YAG laser was used in this treatment with the protocols shown in the table below. No other concurrent oral or topical medications were given during this treatment.

Laser	SP Dynamis		
	Step 1	Step 2	Step 3
Wavelength	1064 nm	1064 nm	1064 nm
Handpiece	R33-T	R33-T	R33-T
Mode	VERSA	FRAC3	VERSA
Spot size	3mm	6 mm	3 mm
Fluence	45 J/cm ²	15 J/cm ²	180-250 J/cm ²
Pulse duration	25 ms	0.6 ms	20-25 ms
Frequency	3 Hz	5 Hz	1 Hz
Endpoint	Erythema	Erythema	Blanching of vessel
Passes	1 pass, no overlapping	3 passes, no overlapping	1 pass, no overlapping
Sessions	1 session		



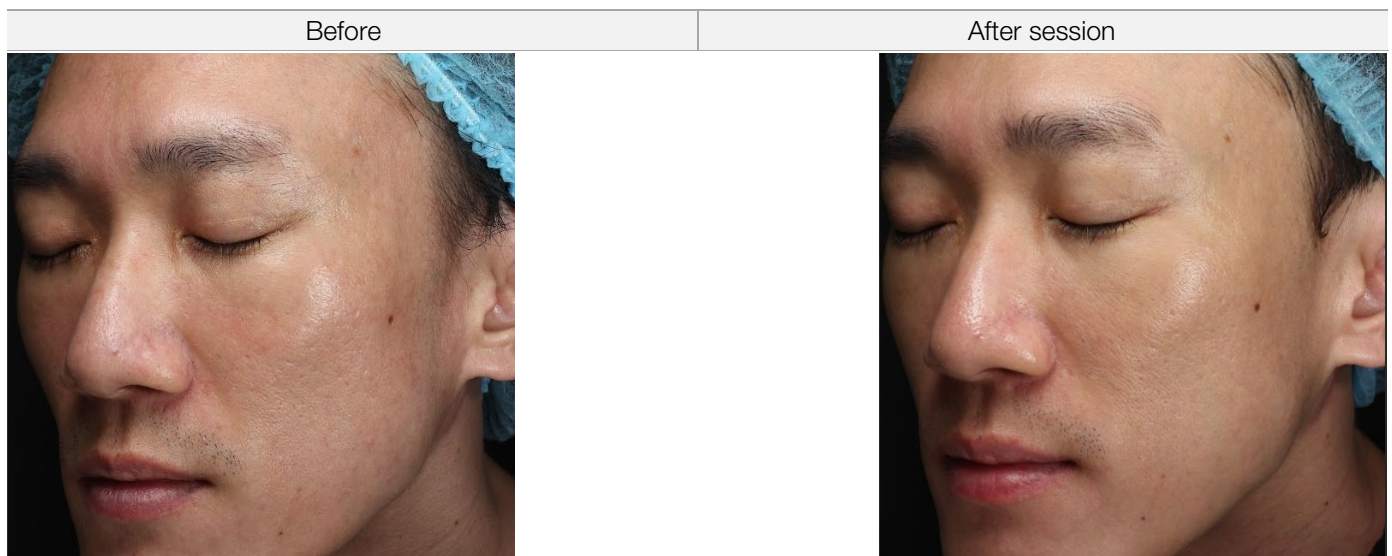
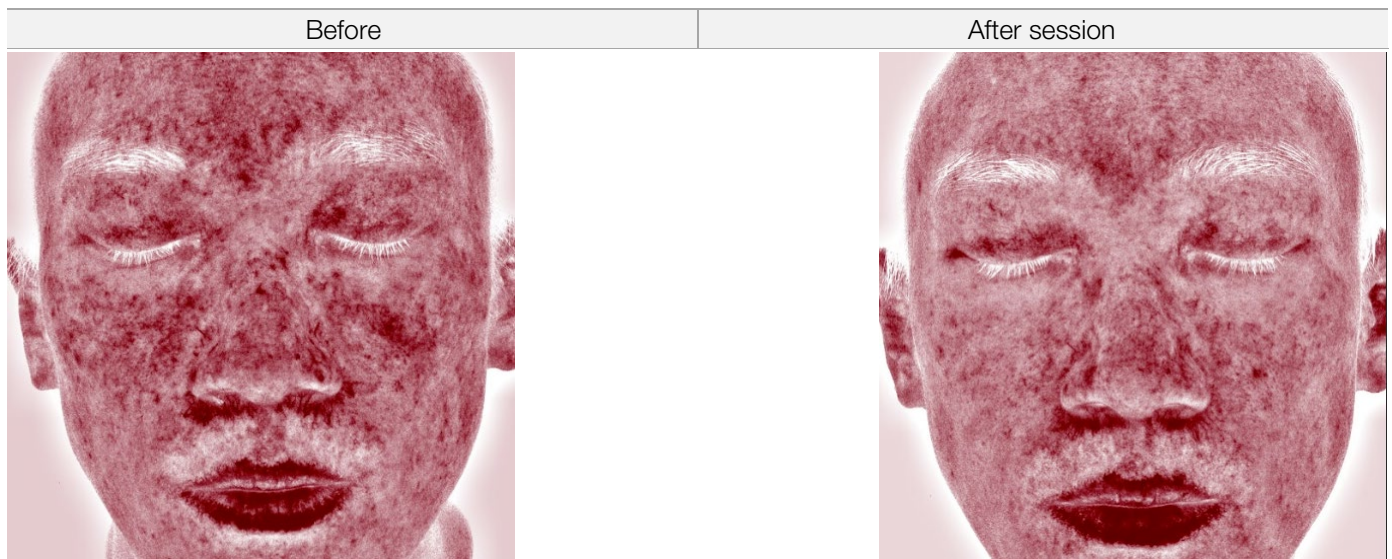
Dr. Wong Yeut Sun completed his medical training at the National Defense Medical Center in Taipei, Taiwan in 2011. From 2011 to 2013 he performed internships in the Dermatology Department of Tainan ChiMei Hospital and the Plastic Surgery Dept. of Taipei Veteran General Hospital. After working as a Medical 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 rosacea area by using the R33-T handpiece with spot size 3 mm, fluence 45 J/cm², and frequency 3 Hz. 1 pass was done with no overlapping. This purpose of this step was to reduce vascular structure and control inflammation.

The second step of the treatment was to target the whole face by using the R33-T handpiece with spot size 6 mm, fluence 15 J/cm², pulse duration 0.6 ms, and frequency 5 Hz, performing 3 passes with no overlapping. This step utilizes the photo rejuvenation properties of FRAC3 mode to reduce inflammation and promote collagen remodeling of the skin.

The final step was to use the R33-T handpiece with spot size 3 mm, pulse duration 20-25 ms, fluence 180-250 J/cm², and frequency of 1 Hz to target individual red vessels. 1 pass was done with no overlapping and the method of lasering was tracking of the vessel. The end point was blanching of the vessel. Precautions must be taken during this step: if there is no blanching of vessel, do not attempt to do multiple passes on the vessel. Cold air is recommended during this step to reduce the chance of blistering. EMLA cream was applied for 30 minutes prior to the procedure and cold air was used to mitigate the pain. Moisturizer and sunscreen were applied to the patient after treatment. Advice for patient was to avoid long periods / extreme sun exposure. The patient came back for follow-up after one month and was satisfied with the result after only 1 session. No complication was observed. The patient reported that the symptoms of burning and a stinging sensation improved as the redness of rosacea subsided. Rosacea is a common skin condition that affects mostly the face. Rosacea typically develops in adults between 30 and 50 years of age and is more common in women than in men. Treatment for rosacea includes topical cream, oral antibiotics, laser/light therapy, and oral isotretinoin. As a conclusion, this shows that long-pulse Nd:YAG laser is a safe and effective tool for treatment of rosacea.



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