



Picosecond 1064 nm Nd:YAG Laser Treatment for Melasma in an Asian Female

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Introduction:

Effective clearance of epidermal-predominant melasma in an Asian female was achieved using a picosecond 1064 nm Nd:YAG laser with a multi-spot, low-fluence protocol.

Laser	StarWalker PQX		
	Step 1	Step 2	Step 3
Wavelength	1064 nm (Nd:YAG)	1064 nm (Nd:YAG)	1064 nm (Nd:YAG)
Handpiece	Black	Black	Black
Fluence	0.7 J/cm ²	1.2 J/cm ²	1.5 mJ/px
Frequency	5 Hz	5 Hz	5 Hz
Passes	5	5	5
Spot size	8 x 8 mm	6 x 6 mm	4 x 4 mm
Cooling	yes	yes	yes
Sessions	3 sessions with 1 month Tx interval		



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CLINICAL CASE:

A 29-year-old Vietnamese female presented with a worsening case of melasma on her face that began a year earlier. She is nulliparous, denies consumption of any hormonal medications, and is not subject to excessive sun exposure. She feels frustrated and embarrassed by the visible discoloration on her face as it is difficult to cover up. A treatment protocol with 3 sessions of the Fotona StarWalker PQX laser was designed for her.

Procedure

A total of 3 laser sessions were performed at one-month intervals. Each laser session consisted of 3 steps. No anesthesia was used apart from concurrent cold-air cooling during the laser treatment.

Step 1 used the Black 8 mm handpiece with 5 passes all over the face. A similar step was repeated using the Black 6 mm handpiece, also with 5 passes all over the face. The 3rd step involved using the Black 4 mm handpiece, with 5 passes on the malar area only.

Because the melasma appeared predominantly epidermal (Wood's lamp unavailable), combining 8 mm, 6 mm, and 4 mm spot sizes allowed multi-depth pigment targeting, and fluences were adjusted accordingly. The endpoint of the laser treatment was minimal erythema. The laser treatment was well tolerated.

Result & Discussion:

Following the laser treatment, no particular post-care steps were emphasized besides applying adequate skin moisturizer and sunscreen. The patient was started on 4% hydroquinone and 2% tranexamic acid immediately after the first laser session, but instructed to pause both for one week after each treatment to avoid irritation and reduce the risk of PIH. She noticed a gradual lightening of her melasma after each session. A good improvement of the melasma was observed after 3 sessions. Subsequent follow-up at 3 months after the 3rd session showed persistent results with no rebound.

