

A Prospective Study of the Safety and Efficacy of a Thermo-Mechanical Fractional Ablative Device for Periorbital Rejuvenation in Asians

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Background: Demand for noninvasive procedure to correct the unattractive feature of peri-orbital area is increasing because of the popularity of aesthetic medicine. However, data on the safety and efficacy of noninvasive procedures for treatment of periorbital photo-damaged skin in Asians are limited.

Objective: This prospective, self-controlled study was conducted to evaluate the safety and efficacy of a thermo-mechanical fractional ablative device for the treatment of photo-damaged peri-orbital skin in Asians.

Materials and Methods: Twenty females (mean age of 48.7 years old) with skin type IV with peri-orbital line and laxity were enrolled. All subjects were treated with a fractional thermo-mechanical device (a tip protrusion of 400 μm and a pulse duration of 10 milliseconds), every 4 weeks for a total of 5 treatments. Objective (measurement of skin color and roughness using 3D photography and skin elasticity analysis using cutometer) and subjective [evaluated using the Physician Global Aesthetic Improvement Scale (GAIS) by two blinded dermatologists] assessments were obtained at baseline and at 1 and 3 months after the final treatment.

Results: GAIS assessments at 3 months after the last treatment indicated that 55.6%, 22.2% and 11.1% of the subject showing improvement, much improvement and very much improvement of their peri-orbital wrinkles and laxity, respectively. Improvement progressed significantly from 1- to 3-month follow-up. There was statistically significant brown lift ($P < .001$), comparing between baseline and 3 months after the final treatment. Reductions in periorbital indentation and wrinkles corresponded to clinical evaluation. Mild-moderate post-inflammatory hyperpigmentation (PIH) was observed in 22% of the subjects. All PIH was temporary and resolved on an average of 4 weeks.

Conclusions: The thermo-mechanical fractional ablative device is safe and effective for the treatment of peri-orbital lines and laxity in Asian.