

Clinical comparison of intense pulsed light vs intense pulsed light and ndyag laser for facial rejuvenation in latin-american women

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Background and objectives: Non-ablative facial rejuvenation has not been widely assessed in Latin-American skin types. The aim of this study was to compare the clinical effectiveness of two non-ablative techniques for facial rejuvenation in Latin-American skin types.

Study design and methods: 36 consecutive patients with moderate-to-advanced photoaging were treated with IPL or a combination IPL/NdYAG laser. Clinical improvements were assessed at baseline and 30 days after two treatments. The results were compared with a non-parametric statistical test. Side effects were reported.

Results: 18 patients received treatment with IPL and 18 with combination IPL/NdYAG laser. Significant differences between baseline and 30 days post-treatments were observed for all features. Outcomes achieved with IPL/NdYAG were significantly higher. Side effects were limited to mild transitory erythema.

Conclusions: Non-ablative treatment with IPL or combination IPL/NdYAG laser long pulse for facial rejuvenation are safe and effective techniques in Latin-American skin types with almost no side effects. Outcomes achieved with IPL/NdYAG laser were higher than using IPL alone in this study.

References

- Izickson L. Laser photorejuvenation of Asian and ethnic skin. *J Cosmet Laser Ther* 2008;10:161-166.
- Munavalli GS, Weiss RA, Halder RM. Photoaging and nonablative photorejuvenation in ethnic skin. *Dermatol Surg* 2005;31:1250-1261.
- Negishi K, Kushikata N, Tackeuchi K, Tezuka Y, Wakamatsu S. Photorejuvenation by Intense Pulsed Light with Objective measurement of skin color in Japanese patients. *Dermatol Surg* 2006;32:1380-1387.
- Shah GM, Kilmer S. Combined nonablative rejuvenation techniques. *Dermatol Surg* 2005;31:1206-1210.
- Trelles MA, Allones I, Vélez M, Mordon S. NdYAG laser combined with IPL treatment improves clinical results in non-ablative photorejuvenation. *J Cosmet Laser Ther* 2004;6:69-78.



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Introduction

The primary objective of nonablative rejuvenation is to improve esthetic concerns characteristic of photoaged skin, including the appearance of dyspigmentation, static fine wrinkles, coarse texture, prominent pores, telangiectasias, and skin laxity. Less downtime and successful outcomes make non ablative treatments highly recommended. Because the absorption coefficient of melanin decreases exponentially as wavelengths increase, near-infrared and infrared wavelengths can be used effectively for rejuvenation in darker skin types. Penetration of 1,064 nm is therefore far greater for darker skin. Epidermal cooling is essential when treating ethnic skin with visible and near-infrared lasers and light devices. Without efficient cooling, light absorbed by melanin is converted to heat, creating unwanted thermal injuries.

Latin-American skin is more prone to ultraviolet light injury. Dark phototypes are related to higher risk of complications after laser procedures. Non-ablative facial cutaneous rejuvenation has not been widely assessed in Latin-American skin types.

Objective

The aim of this study was to compare the clinical effectiveness of two non ablative techniques for facial rejuvenation in Latin-American skin types. Safety of the treatments and adverse effects were also reported.

CLINICAL EVALUATION OF INTENSE PULSED LIGHT vs A COMBINED TREATMENT WITH INTENSE PULSED LIGHT AND NDYAG LASER FOR FACIAL REJUVENATION IN LATIN-AMERICAN WOMEN



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Study design and methods

A total of 36 consecutive patients (Latin-American women, 38-60 years old, Fitzpatrick skin type III-V) with moderate-to-advanced photoaging were treated with IPL or a combination IPL/NdYAG laser (Syncro HP, Deka, Italy); each received two sessions one month apart.

Settings chosen included the following treatment parameters: IPL 550-950 nm, spot size 18 mm x 83 mm, fluency 8.5-11 J/cm², 3 pulses, pulse duration 5 msec, delay 110 msec, 2 passes; NdYAG laser 1064 nm long pulse, spot size 15mm, fluency 52 J/cm², 3 pulses, pulse duration 15 msec, delay 125 msec, frequency 1 Hz, 4 passes. Chilled air was used as a cooling technique. When performing combined treatment, NdYAG laser was applied immediately after IPL. All patients used sunscreen 30+ FPS and a preparation of hydroquinone/retinoic/hydrocortisone daily.

Clinical improvements were assessed by two external blinded physicians with comparative photographs at baseline and 30 days after the two treatments using a quartile grading scale to evaluate fine lines, deep wrinkles, pigmentation, redness, laxity and global appearance of the skin.

The results were compared with a non-parametric statistical test, the Mann-Whitney U test. Side effects were reported.

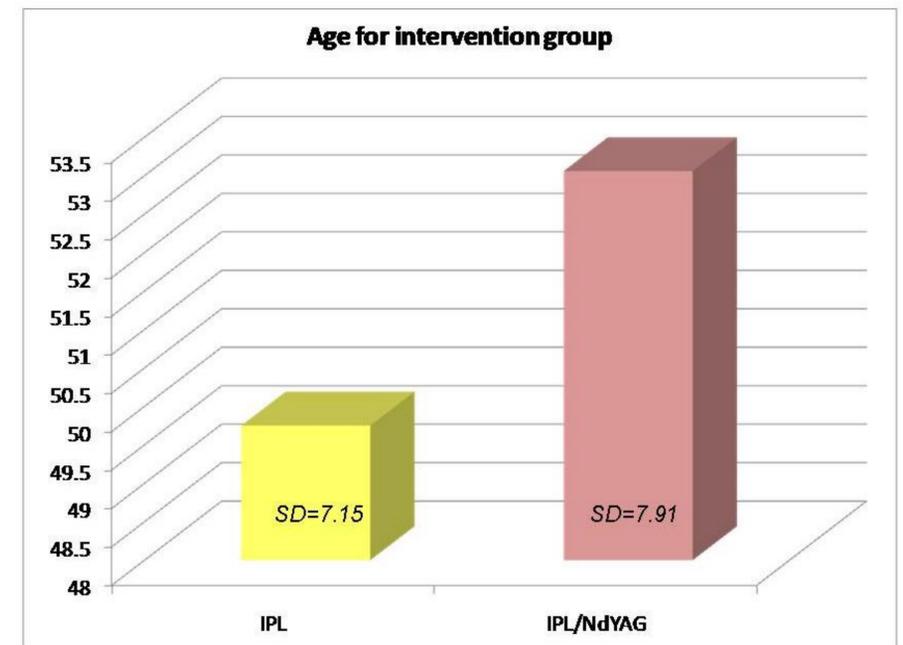


Fig. 1 Age in years for intervention group

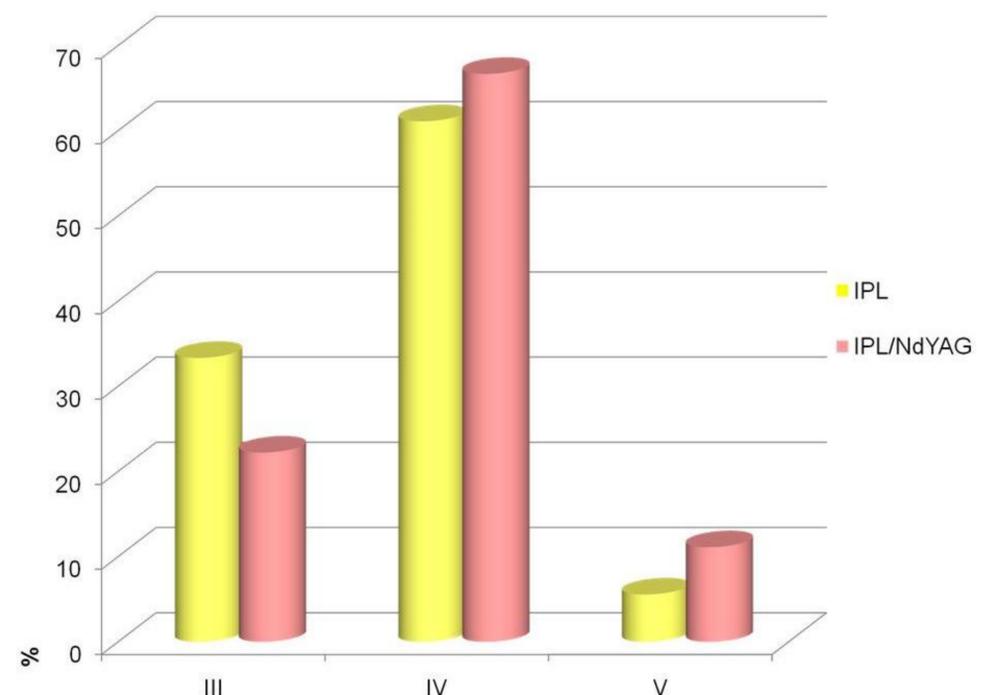


Fig 2. Phototypes for intervention groups

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Results

18 patients received treatment with IPL (average age 49 ± 7 ; Fitzpatrick III 33%, IV 61%, V 6%) and 18 with combination of IPL/NdYAG laser (average age 53 ± 8 ; Fitzpatrick III 22%, IV 67%, V 11) Fig 1 and Fig 2.



Fig. 3 Photographs at baseline and 30 days after second combined treatment with IPL/NdYAG

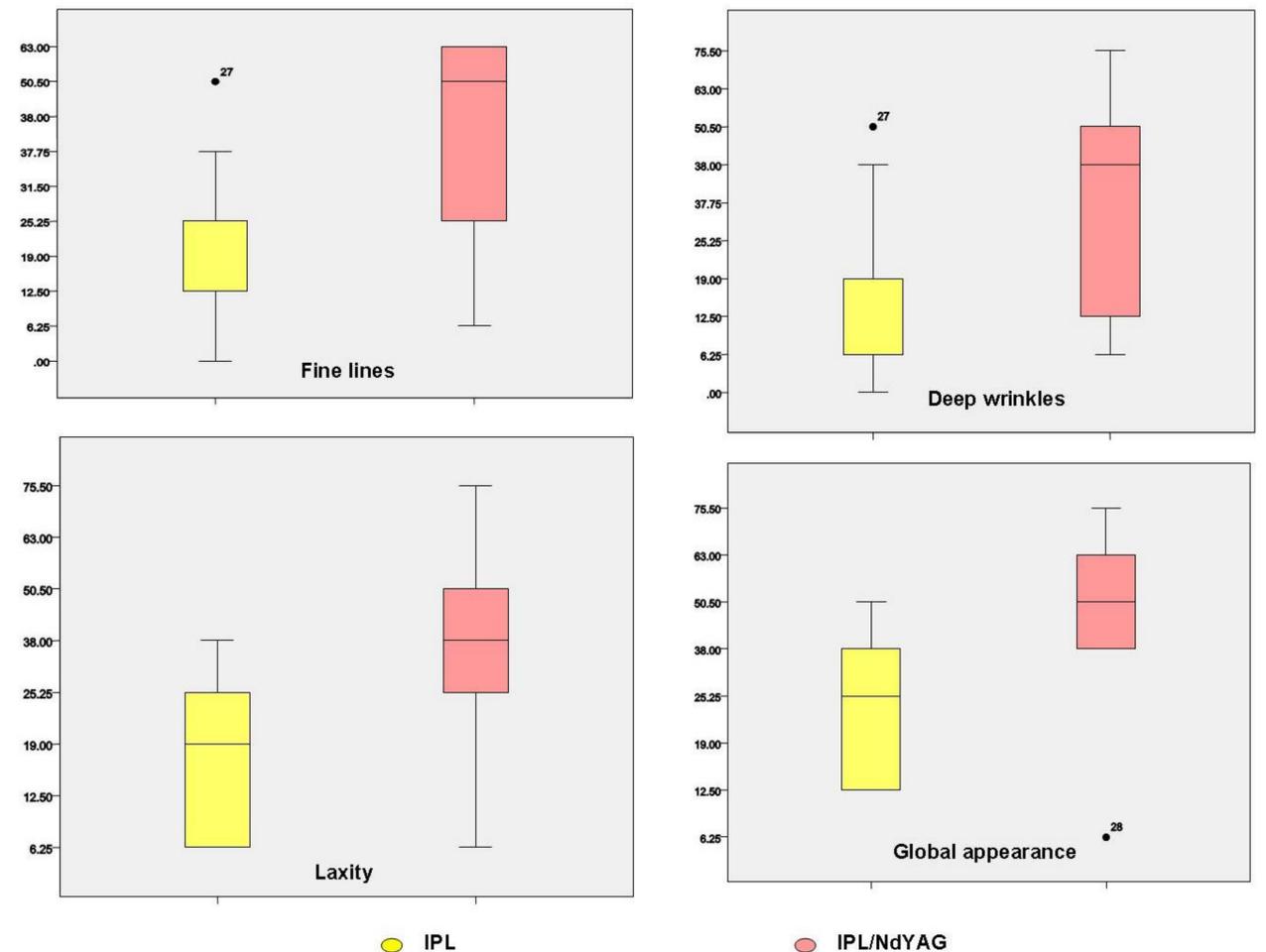


Fig. 4 Comparison of evaluated variables between intervention groups. Results achieved in IPL+NdYAG group were significantly higher than IPL alone

Significant differences between baseline and 30 days post-treatments were observed for all features. Fig. 3. Outcomes achieved with IPL/NdYAG were significantly higher: fine lines ($p=0.0044$), deep wrinkles ($p=0.0006$), pigmentation ($p=0.0025$), redness ($p=0.0415$), laxity ($p=0.0001$), global appearance ($p=0.0004$). Fig. 4. Side effects were limited to mild transitory erythema.

Conclusions

Non-ablative treatment with IPL or combination IPL/NdYAG laser long pulse for facial rejuvenation are safe and effective techniques in Latin-American skin types with almost no side effects.

Outcomes achieved with IPL/NdYAG laser were higher than using IPL alone in this study.

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