

Efficacy and tolerability of 5-aminolevulinic acid 0.5% liposomal spray and intense pulsed light in wrinkle reduction of photodamaged skin

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Abstract

Background:

Photodynamic therapy (PDT) with 5-aminolevulinic acid (5-ALA) is effective for the treatment of photoaging.

Objective:

To evaluate the efficacy and safety of PDT using a novel 0.5% liposome-encapsulated 5-ALA spray and an intense pulsed light (IPL) system (Ellipse Flex PPT) in reduction of periorbital and nasolabial wrinkles. *Patients and*

Methods:

Thirty healthy volunteers, aged 35–65 years, skin type I–III, with type 2 photoaging underwent a baseline visit, three ALA-IPL treatments once every 3 weeks, an end-of-treatment visit and a final visit 3 months after the end-of-treatment visit. Wrinkle depth was evaluated according to the modified Fitzpatrick wrinkle scale (MFWS). At the final visit, patients rated their degree of overall improvement.

Results:

For periorbital and nasolabial wrinkles, the differences of the average MFWS evaluation between baseline versus end-of-treatment visit, baseline versus final visit and end-of-treatment visit versus final visit were statistically significant ($p < 0.001$). The average overall improvement was greater for periorbital than for nasolabial wrinkles ($p < 0.001$). No side effects were observed during and after treatment. The degree of overall improvement was scored as excellent by 47% of the volunteers.

Conclusions:

ALA-IPL treatment using 0.5% liposome-encapsulated 5-ALA spray and Ellipse Flex PPT system is effective and safe for the treatment of type 2 photoaging reducing the PDT-associated side effects.

Keywords

5-aminolevulinic acid , intense pulsed light , photodynamic therapy , photoaging