Photodynamic therapy of acne vulgaris using 5-aminolevulinic acid 0.5% liposomal spray and intense pulsed light in combination with topical keratolytic agents

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Abstract

BACKGROUND:
Increasing antibiotic resistance of Propionibacterium acnes and growing awareness on the side effects of topical and systemic drugs in the treatment of acne vulgaris by physicians and patients have paved the way for a search into new efficacious and safe treatment modalities such as photodynamic therapy (PDT). Although the efficacy of PDT using 20% 5-aminolevulinic acid (ALA) cream has been established, phototoxic side effects limit its use. The 5-ALA concentration can be lowered by a factor of 40 by changing the vehicle of 5-ALA from a moisturizing cream to liposome encapsulation.

OBJECTIVES:
Assessment of the efficacy and the safety of PDT using 5-ALA 0.5% in liposomal spray and intense pulsed light (IPL) in combination with topical peeling agents (Li-PDT-PC) in acne vulgaris.

MATERIALS AND METHODS:
32 patients suffering from acne participated in this randomized, prospective, single blind study. All patients were treated with Li-PDT-PC. During the study nine patients were additionally treated with topical or systemic antibiotics (Li-PDT-PC-AT). These patients were removed from the study although their results were recorded. Results After a mean period of 7.8 months and a mean number of 5.7 treatments the mean total number of lesions dropped from 34.6 lesions to 11.0 lesions, resulting in a mean improvement of 68.2%. Side effects were minimal. Additionally, an intention to treat analysis was conducted.

CONCLUSION:
Photodynamic therapy of acne vulgaris using 5-ALA 0.5% liposomal spray and IPL in combination with topical peeling agents is safe and efficacious, even in patients with acne recalcitrant to standard therapy.