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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.