Comparison of efficacy of aminolaevulinic acid photodynamic therapy vs. adapalene gel plus oral doxycycline for treatment of moderate acne vulgaris-A simple, blind, randomized, and controlled trial

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Abstract

BACKGROUND:

Although progress has been made in the study of photodynamic therapy for acne, studies using current recommended therapies as active comparators are lacking.

METHODS:

Randomized, controlled trial involving 46 patients with moderate inflammatory facial acne, 23 patients received two sessions of PDT separated by 2 weeks (ALA 20% incubated 1.5 hours before red light irradiation with 37 J/cm² fluence) and 23 patients received doxycycline 100 mg/d plus adapalene gel 0.1%. In both groups, from the sixth week, we started adapalene gel 0.1% as maintenance therapy until 12 weeks of follow-up. Primary end point was the reduction of acne lesions at the 6-week follow-up, which was evaluated by 2 investigators blinded to the intervention.

RESULTS:

The median percent reductions in noninflammatory lesion count (P = 0.013) and total lesions (P = 0.038) at 6 weeks was found to be significantly higher in the group receiving PDT. At 12 weeks there was a greater reduction of inflammatory lesions in PDT group with 84% vs. 74% for group who received doxycycline plus adapalene (P = 0.020) as well as in reducing total lesions with 79% vs. 67% respectively (P = 0.026). No severe side-effects were observed for either therapy.

CONCLUSIONS:

ALA-PDT offers promise as an alternative treatment for moderately severe inflammatory acne that has a higher effectiveness than the combination of doxycycline and adapalene gel in reducing noninflammatory and total lesions at 6 weeks. There were significantly superior reductions at 12 weeks in the combination of PDT group followed by adapalene gel in total, inflammatory, and noninflammatory lesions.

KEYWORDS:

acne; adapalene; doxycycline; photodynamic therapy; randomized controlled trials