



An open study to determine the efficacy of blue light in the treatment of mild to moderate acne.

Morton CA¹, Scholefield RD, Whitehurst C, Birch J.

Author information

Abstract

BACKGROUND: The effective management of acne remains a challenge; achieving an optimal response whilst minimizing adverse events is often difficult. The rise in antibiotic resistance threatens to reduce the future usefulness of the current mainstay of therapy. The need for alternative therapies remains important. Phototherapy has previously been shown to be effective in acne, with renewed interest as both endogenous and exogenous photodynamic therapies are demonstrated for this condition.

OBJECTIVES: To determine the effect of narrowband blue light in the reduction of inflammatory and non-inflammatory lesions in patients with mild to moderate acne and to evaluate patient tolerance of the therapy.

METHODS: We performed an open study utilizing a blue LED light source in 30 subjects with mild to moderate facial acne. Two weeks after screening, lesions were counted and recorded by lesion type. Over 4 weeks, patients received eight 10- or 20-minute light treatments, peak wavelength 409-419 nm at 40 mW/cm². Assessments were taken at weeks 5, 8 and 12 and lesion counts were recorded. Repeated measures-ANOVA and Dunnett's tests, respectively, allowed assessment of the different scores over time and permitted comparison of mean counts.

RESULTS: An overall effect on inflammatory counts was observed at week 5, and a statistically significant decrease in inflamed counts was detected at the week 8 assessments, which continued to week 12. There was little effect on non-inflamed lesions. The treatment was well tolerated with adverse events experienced generally rated as being mild and usually self-limiting.

CONCLUSIONS: Eight 10- or 20-minute treatments over 4 weeks with a narrowband blue light was found to be effective in reducing the number of inflamed lesions in subjects with mild to moderate acne. The treatment had little effect on the number of comedones. The onset of the effect was observable at the first assessment, at week 5, and maximal between weeks 8 and 12. Blue light phototherapy using a narrowband LED light source appears to be a safe and effective additional therapy for mild to moderate acne.

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