

MONOCHROMATIC PHOTOTHERAPY IN PATIENTS WITH CHRONIC PRESSURE ULCERS

O Dehlin (1), S Elmståhl (1), F Gottrup (2); University Hospital, Malmö, Sweden (1), Bispebjerg University Hospital, Copenhagen, Denmark (2).

A Double-Blind, Randomised, Placebo-Controlled Comparison of the Efficacy and Safety of Monochromatic Phototherapy vs Placebo Phototherapy in Elderly Patients with Grade II or III Chronic Pressure Ulcers.

HYPOTHESIS

That treatment of chronic pressure ulcers in geriatric patients with **Biolight**[®], in comparison to placebo light, should result in shorter time until total pressure ulcer healing and a greater reduction in pressure ulcer area, defined as ulcer size during follow-up relative ulcer size at baseline.

MATERIAL

The study was performed at 8 centers in Sweden and Denmark. Of a total of 201 included patients, 164 completed the study; 78 in the phototherapy group (Biolight), mean age 83 years, mean BMI 21, and 86 patients in the placebo group, mean age 84 years, mean BMI 20.



Before treatment



After treatment

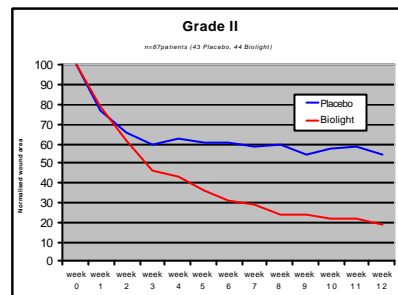
METHODS

Monochromatic infrared light at 956 nm and red light at 637 nm was used. Outcome variables were completely healed ulcer, almost healed (>90%) or partially healed (>50%) ulcer during the 12 week study period. Ulcer size was determined with a planimetric method; photo was also taken. Treatment (Biolight or placebo) was given according to a fixed scheme, from 5 to 2 times a week. All patients also received state-of-the art conventional treatment of their ulcers.

RESULTS

In the Biolight group 44 % of ulcers healed completely compared to 39% in the placebo group (ns). An analysis of reduction in normalised ulcer size over time showed a larger non-significant area decrease in the Biolight group (p=0.18).

A subgroup analysis was performed on the 87 patients - 43 placebo and 44 Biolight - with grade II ulcers. The normalised reduction in ulcer size showed a larger reduction in the Biolight group, Figure 1, but the difference did not reach statistical significance (p=0.086). At week 12 the pressure ulcer size was on average 18.2 % of baseline size in the Biolight group compared to 54.4 % in the placebo group, an absolute difference of 36 %, (p=0.065).



Diff week 12 = 36%
p=0,065
Ulcer size reduction over ...

CONCLUSIONS

Pulsating monochromatic light **Biolight**[®] represents a new principle in the treatment of chronic pressure ulcers. This study showed a strong tendency towards a positive effect - reduction in ulcer size - in patients with grade II ulcers. The results are promising and a new study has started focusing on patients with grade II ulcers only.

Sponsored by:

Biolight

Danderyd 1999-09-29