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A randomized, controlled, double-blind study evaluating photodynamic white hair removal using topical Liposomal Rose Bengal

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Abstract

Laser hair removal of blond and white hair is acomplicated task with often unsatisfactory results as a result of lack of laser-absorbing chromophore. In the present study, we investigated if repetitive sessions of photodynamic therapy (PDT) using Topicall application of liposomal rose bengal (RB) hydrogel followed by intense pulsed light (IPL) exposure enables removal of white and gray hair. Liposomal RB in hydrogel was prepared and pharmaceutically characterized. Fifteen adult females, skin phenotypes III–IV were entered into the study. They were determined to have white terminal hair. Unwanted facial hair was treated for three sessions at 4–6 week intervals using intense pulsed light (IPL). At each treatment: the treatment area was pre-treated with topical liposomal rose RB gel. While a control group of another 15 patients applied Placebo gel before IPL treatment. Hair regrowth was measured 4 weeks after each treatment and additionally 6months after the last treatment by counting the number of terminal hair compared with baseline pretreatment values. Rate of hair regrowth, complications and treatment outcomes were documented.

Mean regrowth in the liposomal RB group was 63%after 3 treatment cycles. Six months after therapy, average terminal hair count compared with baseline pretreatment showed 40% reduction, and no recorded side effects.

Also significant difference was seen compared with the control group, the clinical outcome was promising. As a conclusions photodynamic therapy using liposomal RB hydrogel in combination with IPL treatment showed significant efficacy in the treatment of white hair compared with a control group.

Biography

Maha Fadel is a Professor of Pharmaceutical Technology at National Institute of Laser Enhanced Sciences, Cairo University and Head of the Pharmaceutical Technology Unit, Drug delivery laboratory. Medical Laser Applications Dpt. PhD in Pharmaceutics and Industrial Pharmacy, Faculty of Pharmacy, Cairo University Egypt