



WOUND HEALING

NOVEL TREATMENTS BASED ON HYALURONAN HYBRID COOPERATIVE COMPLEXES AND Q-SWITCHED ND: YAG LASER FOR SKIN REPARATION.

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Introduction: During the last years, several attempts have been accomplished to improve the wound healing process, thus enhancing skin ability to reconstruct its damaged sites through a proper dermal regenerative process. HCC (NaHyCo® Technology) widely exploited in dermoaesthetic applications proved specific actions on keratynocytes, fibroblasts, adipose and mesenchymal stem cells. Bearing in mind that photoacoustic lasers application (Q-switched 1064 Nd-YAG laser, Medlite Conbio C6 Nd-YAG laser, Cynosure USA) showed to improve skin barrier function and photoaging markers representing an effective weapon to fight skin repair.

Objective: the study aims to evaluate the efficacy of the coupling of laser therapy and HCC treatment to improve skin repair and remodeling.

Materials and Methods: Scratched keratinocyte monolayers were treated with laser and successively with HA based formulations.

Wound closure was evaluated exploiting time lapse videomicroscopy. Membrane proteins and inflammation biomarkers were analyzed at transcriptional and protein level to evaluate specific and crucial signals in wound regeneration.

Results: Wound closure was fastened when laser treatment was accompanied by HCC addition. The data confirmed a positive effect of HCC in accelerating cell migration. However, biomarkers were actively modulated by the sole laser action. AQP3 gene and protein upregulations suggests that laser +HCC effects are involved in hydration, elasticity and restoration of the barrier achieving sound skin remodeling.

Conclusions: These evidence support that HCC complemented to laser treatment is a valid and innovative tool in dermatological treatments to repair scars, keloids or other skin



ABSTRACT BOOK

ABSTRACTS



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