AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

EVALUATION OF THE EFFICACY AND TOLERABILITY OF A FACIAL CREAM CONTAINING 10% FREE GLYCOLIC ACID

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Introduction: Glycolic acid is recognized as a leading anti-aging ingredient with clinically proven benefits. Its small molecular size allows glycolic acid to efficiently penetrate the epidermis and disrupt cellular cohesions to promote desquamation. Topical efficacy of glycolic acid depends on its bioavailable concentration as described by the Henderson-Hasselbalch equation, a detail not commonly considered in glycolic-based formulations. Integrating glycolic acid in a pH-regulated topical formulation may largely neutralize the acid, attenuating its performance. The goal of the present study was to evaluate the tolerance and efficacy of a topical facial treatment strictly formulated to contain 10% free glycolic acid.

Method: This single-center, double-blinded, randomized, clinical study was conducted over the course of 8 weeks on 53 subjects ages of 35-65 who presented with mild to moderate global fine lines/wrinkles, uneven skin tone, skin dullness and rough skin texture. Twice daily, subjects applied the assigned topical treatment to the face. Clinical grading and safety evaluations were conducted at baseline, immediate, overnight, weeks 2, 4, and 8. Subjects completed self-assessment questionnaires and had clinical images taken. Skin radiance was further quantified by using an optimized algorithm designed to analyze images captured under diffused light using scattering light. Additionally, cell turnover was assessed through the cumulative fluorescence of dansyl chloride-labeled skin on a site treated once-daily with the cream and an untreated control site.

Results: This formula containing 10% free glycolic acid showed statistical significant improvement on global fine lines, uneven skin tone, radiance, skin texture and smoothness at weeks 2, 4 and 8. Global wrinkles showed significant efficacy at weeks 4 and 8. Image analysis of skin radiance showed a statistical improvement at weeks 2 and 8. Cumulative fluorescence scores showed an increased cell turnover rate for the treated site when compared to untreated. The treatment was well tolerated by subjects.