AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

# A CLINICAL DEMONSTRATION OF THE ANTIOXIDANT ABILITIES OF A BOTANICALLY BASED FACIAL OIL

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Background: Cutaneous photoaging is accelerated when oxygen radicals arise from UV radiation striking skin with insufficient endogenous antioxidant capability. The primary antioxidant in the skin is vitamin E, supplemented by the secondary antioxidant vitamin C. Nature-based topical antioxidants may be of value in photoaging prevention.

Objective: This research examined the ability of a nature-based facial product to decrease oxidative stress as measured by the development of apoptotic cells in 10 healthy female volunteers.

Methods: Subjects were dispensed a syndet bar for cleansing and applied the product to one randomized buttock twice daily for 8 weeks. The other buttock served as untreated control. At week 8, subjects returned for irradiation of both upper outer buttock cheeks with 2MED of UVB from a solar simulator (150W xenon arc bulb, Solar Light, Philadelphia). 24 hours post-irradiation, photographs, dermospectrophotometer readings, and 3mm punch biopsies were obtained from the treated and untreated buttock sites.

Results: The nature-based product contains a variety of botanically-derived antioxidants from rosehip and evening primrose seed extracts; vitamin derivatives tocopherol, beta-carotene, ascorbyl palmitate and retinyl palmitate; in a jojoba, sunflower, borage, evening primrose, wheat germ, hazel, soybean, and canola oil carrier. Reduced visible erythema confirmed by dermospectrophotometer readings in 80% subjects was a macroscopic indication of radical quenching. Histologic reduction in apoptotic cells as compared to untreated control indicated topical antioxidant oil prevention of lethal UV injury.

Conclusion: Decreased oxidation was observed despite the nature based product not having SPF activity. These data suggests the topical nature-based product contains antioxidants serving as electron donors to stabilize the reactive oxygen species created by the solar simulated radiation. This research provides valuable insight regarding the role of a

nature-based photoaging prevention.