ABSTRACT BOOK ABSTRACTS



MEDICAL THERAPIES AND PHARMACOLOGY

## COENZYME Q10 ORAL SUPPLEMENTATION: IS IT THE PILL OF EPIDERMAL YOUTH?

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Introduction: Coenzyme q10 (CoQ10) is a benzoquinone that acts on mitochondrial electron transport chain, contributing to the production of adenosine triphosphate (ATP). It also acts as an intracellular antioxidant, with an antiaging effect in cardiac, cerebral and hepatic cells, although few dermatological studies have been performed in vivo until now.

Objective: The first triple-blind, randomized, placebo-controlled clinical trial is proposed to evaluate the antioxidant action of oral CoQ10 in the skin aging of 45 healthy elderly women. Here we present the pilot study. It was registered in ReBEC palataform, approved by the local ethics committee and received a financial support from a dermatologist local fund (FUNADERSP).

Materials and Methods: Nine volunteers were allocated randomly in 3 intervention groups (placebo, CoQ10 100mg/day and CoQ10 200mg/day) and were followed for 12 weeks. Evaluations were performed before and after the beginning of oral supplementation and included: photographic analyzes by GAIS scale, patient opinion, clinical skin evaluations including hydration (corneometry), elasticity (cutometry) and dermal collagen (20MHz ultrasound), histological analysis for collagen and elastic fibers (picrosirius and Weigert staining) and epidermis (hematoxylin-eosin), expression of mRNA genes by real-time PCR for metalloproteinases and oxidants and antioxidant factors in the skin, such as superoxide dismutase (SOD), catalase and peroxiredocin, and also serum cytokines dosages. Histomorphometric and statistical analysis were performed using Image-Pro-Plus software and GraphPad-Prism software, respectively.

Results: There was significant dose-dependent epidermal thickening following CoQ10 supplementation. Expression of mRNA for antioxidant factors in cutaneous cells as well as serum levels of inflammatory cytokines, such as IL6 and IL10, were also influenced by CoQ10 supplementation.

Conclusions: There was a prominence of epidermal response as a main target for this











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coenzyme, thus a sample size increase may possibly confirm such effect, never previously described in the literature.



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