GLOBAL SKIN HEALTH

SKIN PROTECTIVE EFFECTS OF AN ANTI-POLLUTION, ANTI-OXIDANT SERUM CONTAINING DESCHAMPSIA ANTARTICA EXTRACT AND FERULIC ACID: A CONTROLLED PROSPECTIVE SINGLE-BLIND TRIAL IN WOMEN LIVING IN URBANIZED ARE

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Introduction: Air pollution causes skin damage and favors skin aging processes such as dark spots and wrinkles. Pollutant substances, mainly particulate matter (PM10-PM2.5), accelerate skin aging through a specific activation of intracellular receptors called AhR (Aryl-Hidrocarbon Receptor). Deschampsia antartica extract (DAE) has shown, in vitro, to counteract the pollutant-induced AhR activation. Ferulic acid (FA) is a potent antioxidant substance. A serum containing DAE/FA has been recently developed. So far, no clinical data are available regarding the protective actions of this serum against the detrimental effects of air pollution on the skin.

Objective and Materials and Methods: We conducted a prospective, single-blinded, controlled 1-month study in 20, phototype I-III, women (mean age 42 years) with at least 3 dark spots on the face, living in a homogenous urbanized, high-pollution area compelling to spend at least 2 hours outdoor. The objectives of the study were to evaluate the effects of treatment on skin barrier function, assessed by TEWL measurement (Tewameter), the effect on dark spots, evaluated by mean of colorimetry (Colorimeter CL 400) and the effect on squalene peroxide (SQOOH)/squalene (SQ) skin ratio assessed with face swabs.

Results: The trial was conducted between November 20, and December 19, 2018. During this period elevated PM10 concentration (>20 microg/m3) in the respective urban areas were registered in 23 out of 29 days (ARPA official database). In comparison with baseline, the serum induced a significant improvement of skin hydration (-19% of TEWL), a significant improvement of dark spots (+7%) and a significant improvement of SQOOH/SQ ratio (-16%). The product was evaluated very well by >90% of the treated subjects regarding cosmetic acceptability.

Discussion: A serum containing DAE/FA has shown to improve skin barrier function, to reduce dark spots and to counteract the skin oxidative stress in women living in high pollution urban area.