

Publication

Airborne particle exposure and extrinsic skin aging

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 524388**Author(s)** Vierkötter, Andrea; Schikowski, Tamara; Ranft, Ulrich; Sugiri, Dorothea; Matsui, Mary; Krämer, Ursula; Krutmann, Jean**Author(s) at UniBasel** [Schikowski, Tamara](#) ;**Year** 2010**Title** Airborne particle exposure and extrinsic skin aging**Journal** Journal of investigative dermatology**Volume** 130**Number** 12**Pages / Article-Number** 2719-26

For decades, extrinsic skin aging has been known to result from chronic exposure to solar radiation and, more recently, to tobacco smoke. In this study, we have assessed the influence of air pollution on skin aging in 400 Caucasian women aged 70-80 years. Skin aging was clinically assessed by means of SCINEXA (score of intrinsic and extrinsic skin aging), a validated skin aging score. Traffic-related exposure at the place of residence was determined by traffic particle emissions and by estimation of soot in fine dust. Exposure to background particle concentration was determined by measurements of ambient particles at fixed monitoring sites. The impact of air pollution on skin aging was analyzed by linear and logistic regression and adjusted for potential confounding variables. Air pollution exposure was significantly correlated to extrinsic skin aging signs, in particular to pigment spots and less pronounced to wrinkles. An increase in soot (per 0.5×10^{-5} per m) and particles from traffic (per 475 kg per year and square km) was associated with 20% more pigment spots on forehead and cheeks. Background particle pollution, which was measured in low residential areas of the cities without busy traffic and therefore is not directly attributable to traffic but rather to other sources of particles, was also positively correlated to pigment spots on face. These results indicate that particle pollution might influence skin aging as well

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