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Tattoos: a new ancient carcinogen?

**34th Annual Conference of the International Society for Environmental Epidemiology (ISEE),
September 18-21, 2022, Athens (Greece)**

ABSTRACT

Tattoo prevalence has been rising steeply during the last decades, a development seen worldwide mostly in the younger age groups. However, only few are aware that tattoo inks may contain harmful environmental and chemical contaminants classified as (probably) carcinogenic to humans. Amongst them are polycyclic aromatic hydrocarbons, primary aromatic amines and metals. However, as studies underlying this classification did not consider subcutaneous exposure, it remains to decipher whether tattoos might cause cancer in humans.

As it is known that the largest part of the nano- and microparticle sized injected tattoo pigments travels to the local lymph node and, from there, potentially to other organs, the systemic exposure is not restricted to the skin. Especially in young individuals exposure to tattoo ink is worrisome as they will have a long-term exposure to these substances. To understand the potential relationship of tattoos and certain kinds of cancer, epidemiological studies are needed, which are scarce worldwide. A sound study design needs to assure a long-term follow-up of (young) tattooed cohort participants, prospective and objective recruitment of medically confirmed cancer outcomes and the inclusion of major sociodemographic, medical and lifestyle confounders.

This in mind, the first longitudinal population based cohort study on tattoos and cancer is currently being set-up in the framework of the French national cohort "Constances". The CRABAT (Cancer Risk Associated with the Body Art of Tattooing) study is led by the International Agency for Research on Cancer (IARC) and leverages the infrastructure of the French national cohort "Constances". Here we present its conceptual framework, study design and exposure assessment.

KEYWORDS: -

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