Human skin microbes change following chronic exposure to environmental pollutants

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Video Byte

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Abstract

Environmental pollution can have harsh effects on many systems in the body, but in addition to well-appreciated internal effects, pollutants can also harm our body's outer barrier – our skin. Polyaromatic hydrocarbons (PAHs), organic molecules found in air pollution, can damage the skin, accelerating aging, altering skin pigmentation, and affecting pathways underlying acne and skin cancer. Unfortunately, exactly how PAH pollution harms the skin remains poorly understood. In a new study, researchers evaluated the cheek and scalp microbiota of over 200 individuals from two cities in China: one with high pollution levels and one with less PAH pollution. They found that individuals from the city with heavier pollution had higher PAH contamination of their skin, and certain bacteria were more prevalent in the high-PAH city, including some that contribute to skin conditions. This study provides insight into the intricate interplay between pollution, skin microbiology and skin health and suggests that understanding the effects of PAH on skin microbes may be key to mitigating the harmful effects of pollution on skin health.