

Heavy smoking causes faces to look older

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"Smoker's Face," a condition where smokers look older than they are, is just one of many negative effects caused by heavy tobacco usage. Louise Millard of the University of Bristol and colleagues report these findings in a new study published 31st October in *PLOS Genetics*.



Some people carry one or two copies of a genetic variant that is associated with heavier tobacco use. To identify effects of the heavier smoking, scientists can separate out the effects of the genetic variant via tobacco use from other possible effects associated with carrying that variant that are unrelated to tobacco use. To simultaneously identify these two types of effects, the researchers used a novel combination of two data analysis approaches and applied them using data from people in the UK Biobank. They separated people into two groups. The first contained people who had never smoked, and the second included current and former smokers. The researchers reasoned that the smoking group would reveal the effects of tobacco exposure, while the never-smokers would show them any unrelated effects of the genetic variant.

The analysis searched across 18,000 traits and apart from the new finding of more rapid facial aging, also identified several previously reported effects of smoking, confirming the method's effectiveness. The known effects of smoking that the analysis identified included worse lung function, and higher risk of chronic obstructive pulmonary disease (COPD) and skin cancer.

About the research, author Louise Millard said: "We proposed a novel approach that can be used to search for causal effects of health exposures, and demonstrated this approach to search for the effects of smoking heaviness. We searched across thousands of traits to identify those that may be affected by how heavily someone smokes. As well as identifying several known adverse effects such as on lung health, we also identified an adverse effect of heavier smoking on facial aging."

Besides emphasizing <u>smoking</u>'s many dangers, the study also serves as proof of principle that these data <u>analysis</u> tools can be used to identify effects of other exposures of interest, such as alcohol intake.

More information: Louise A. C. Millard et al, MR-pheWAS with



stratification and interaction: Searching for the causal effects of smoking heaviness identified an effect on facial aging, *PLOS Genetics* (2019). DOI: 10.1371/journal.pgen.1008353

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