Health & Medicine

Smog's Threat to the Brain

Our brains may be even more vulnerable to air pollution than previously thought.

By David J. Craig | Fall 2021



Gérard DuBois

Evidence has been mounting for years that air pollution can affect our bodies in surprising ways, increasing our risk of developing not only respiratory ailments like asthma but also liver disease, heart conditions, strokes, and dementia.

Now a team of Columbia public-health researchers led by Andrea Baccarelli has discovered that our brains may be even more vulnerable to air pollution than previously known. The researchers analyzed data gathered by the Normative Aging Study, a government-led project that has been tracking the physical and mental health of thousands of people in Boston for decades, and found evidence that even temporary bumps in air-pollution levels, lasting just a few days or weeks, can be harmful to brain health. Past research had documented the negative health effects of long-term exposure to air pollution, but the effects of short-term exposure had not been closely examined.

In an interesting twist, the scientists found that taking aspirin or ibuprofen may mitigate the effects of air pollution, possibly by reducing brain inflammation.

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