LAY ABSTRACT

TITLE: A nested case-control study of untargeted plasma metabolomics and lung cancer among never-smoking women within the prospective Shanghai Women's Health Study

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Smoking is the most common cause of lung cancer, but people who never smoke can still get lung cancer. To understand what processes in the body are linked to cancer, scientists can study metabolites in the body. Metabolites are small molecules made when the body breaks down food, drugs, and chemicals.

In this study, scientists compared metabolites in plasma (blood) from women who have lung cancer and women who do not have lung cancer. All the women never smoked and were part of a large health study in China called the Shanghai Women's Health Study.

The scientists found 28 groups of metabolites that work together in body processes. Two of these groups lower the chance of lung cancer. These two groups of metabolites are involved in processes that help the body deal with harmful chemicals and produce energy. Other studies showed these two groups of metabolites are linked to processes that reduce cancer in people exposed to air pollution.

By studying metabolites in the blood, the scientists in this study helped us understand what body processes are linked to lung cancer.