

Could taking certain drugs reduce risk of ruptured brain aneurysm?

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A new study suggests that people who take a few common drugs may have a decreased risk of having a bleeding stroke due to a ruptured brain aneurysm. The study is published in the June 5, 2024, online issue of *Neurology*. The results do not prove that these drugs reduce the risk of this type of aneurysm; they only show an association.

"We urgently need new ways to prevent this type of stroke, which occurs at younger ages and with a higher death rate than other types of stroke," said study author Jos Peter Kanning, MSc, of University Medical Center Utrecht in the Netherlands.

"Our current surgical treatments for brain aneurysms have a risk of permanent disability and death that often outweighs the potential benefits, so preventing rupture with a non-invasive drug would be very beneficial."

For the study, researchers looked at 4,879 people who had ruptured brain aneurysms, called aneurysmal subarachnoid hemorrhages. Those people were each compared to nine people of the same age and sex, for a total of 43,911 people who did not have ruptured brain aneurysms.

Then researchers looked at [electronic health records](#) to see what prescription drugs people took.

They found that four drugs were associated with a decreased risk of having a ruptured brain aneurysm: the [high blood pressure](#) drug lisinopril; the cholesterol drug simvastatin; the diabetes drug metformin; and the drug tamsulosin, prescribed for enlarged prostate.

After adjusting for other factors that could affect the risk of stroke, such as high blood pressure, smoking, [alcohol abuse](#) and total number of other health conditions, researchers found that people currently taking lisinopril were 37% less likely to have a ruptured brain aneurysm than those not taking the drug. People taking simvastatin were 22% less likely to have a stroke. Those taking metformin were 42% less likely to have a stroke and those taking tamsulosin were 45% less likely.

Researchers also found an increased risk of having a [ruptured brain aneurysm](#) for people taking four drugs: the blood thinner warfarin; the

antidepressant venlafaxine; the antipsychotic and anti-emetic drug prochlorperazine; and the painkiller co-codamol.

"Future research is needed to investigate these associations and determine whether these drugs are effective in reducing the risk of hemorrhagic [stroke](#)," Kanning said. "This work could also help us identify additional risk factors for [subarachnoid hemorrhage](#), potentially leading to new therapies to manage aneurysms."

A limitation of the study was that researchers looked at drug prescriptions. It is possible that people may not take their drugs or may take them incorrectly.

More information: Jos P. Kanning et al, Prescribed Drug Use and Aneurysmal Subarachnoid Hemorrhage Incidence, *Neurology* (2024). DOI: 10.1212/WNL.0000000000209479 , doi.org/10.1212/WNL.0000000000209479

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