

New anti-blood clotting drug may lower risk of recurrent strokes

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An experimental drug designed to block blood-clotting proteins may lower the risk of recurrent strokes, according to a dose-finding trial [published](#) in *The Lancet Neurology*.

More than 795,000 people in the United States each year suffer a [stroke](#), according to the American Heart Association, and nearly 1 in 5 will go on to experience another stroke.

"When patients have transient neurological symptoms due to a minor stroke, we have medications that prevent them from having a further stroke. But despite those medications, a lot of people still go on to have another stroke," said Richard Bernstein, MD, Ph.D., professor in the Ken and Ruth Davee Department of Neurology's Division of Stroke and Vascular Neurology and a co-author of the study.

"When that happens, it's very frustrating because the patients did what they're supposed to do: They sought [medical attention](#), we're taking care of them, and yet they go on to have another stroke anyway."

While the initial stroke is not always disabling, the cumulative effect of recurrent strokes can lead to a person requiring care in a nursing home or [rehabilitation facility](#), Bernstein said. Because of this, patients who recently experienced a [minor stroke](#) are often given anti-blood clotting medications to prevent recurrent strokes.

Previous research has shown that people with a deficiency of factor XI, a protein known to play a role in blood coagulation, have lower rates of ischemic stroke, the most common type of stroke during which a blood clot blocks the flow of blood and oxygen to the brain.

In the current dose-finding trial, more than 2,300 participants were randomly assigned to receive a regimen of anti-blood clotting medications along with different once- or twice-daily dosages of milvexian, a drug designed to inhibit factor XI.

After 90 days, investigators used MRI imaging and found that those participants who received 50–100mg of milvexian twice daily showed a

slightly lower risk of recurrent stroke compared to placebo, according to the study.

"It seems like the drug does work to prevent clinical stroke. We don't know that for sure, but it seems like it, and that has allowed us to pick a dose that hits that sweet spot of lowering the risk of stroke without raising the risk of bleeding too much," Bernstein said. "This study also allowed us to observe that counting up strokes on the MRI may not be a good way to tell if these drugs work, and this was the first large study that really tried to use this method, so we're not going to try that again."

Moving forward, Bernstein and his collaborators will use the study findings to identify a recommended dose to test in a large clinical trial, he said.

"Now that we are able to use this data to identify a dose that hits that sweet spot, the next step is to do a large randomized trial where patients get standard therapy or standard therapy plus this new [drug](#) and see at 90 days if they have fewer strokes without more bleeding," Bernstein said. "If that comes to pass, we'll have a new agent to help prevent patients from having strokes under our noses, which they currently do."

More information: Mukul Sharma et al, Safety and efficacy of factor XIa inhibition with milvexian for secondary stroke prevention (AXIOMATIC-SSP): a phase 2, international, randomised, double-blind, placebo-controlled, dose-finding trial, *The Lancet Neurology* (2023). [DOI: 10.1016/S1474-4422\(23\)00403-9](https://doi.org/10.1016/S1474-4422(23)00403-9)

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