Clinical study: Anticoagulation can be started early after an ischemic stroke

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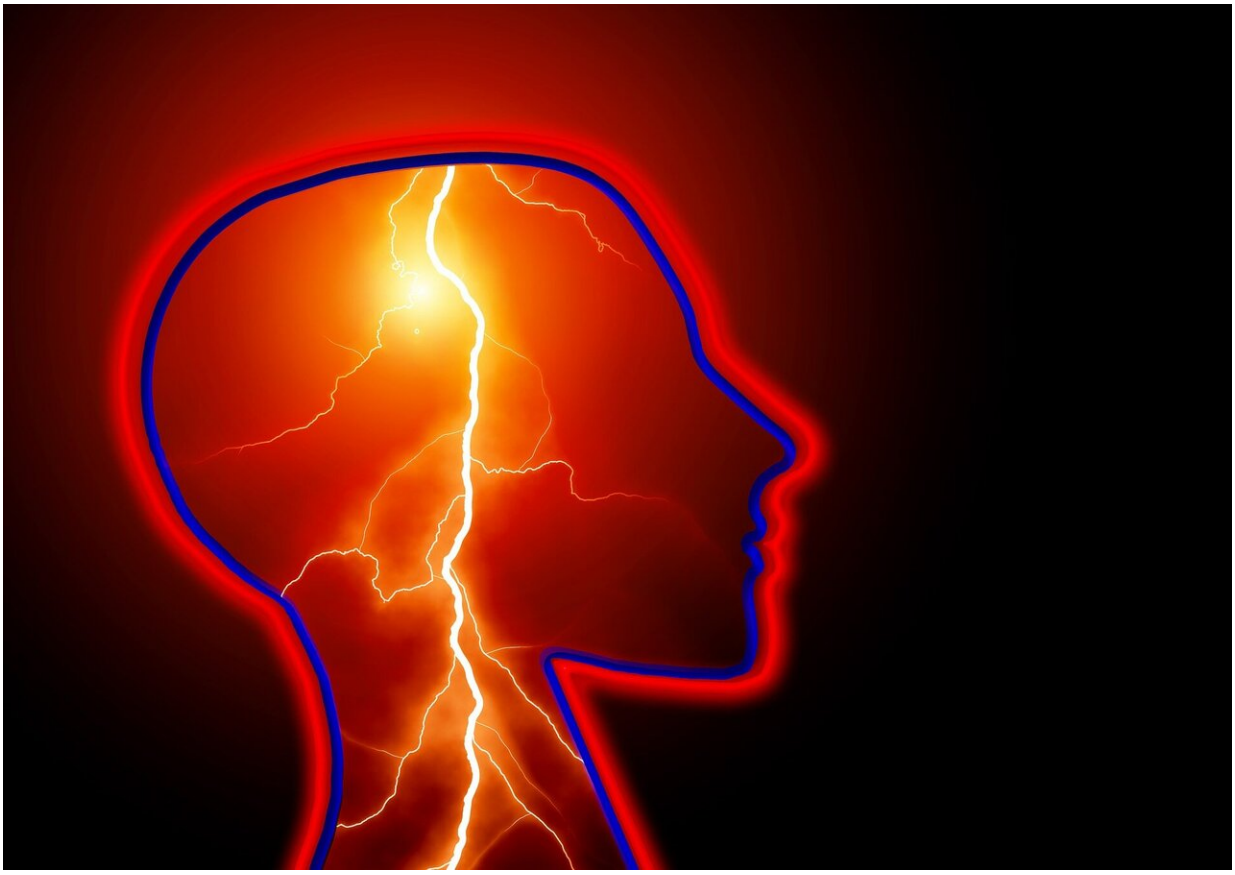

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An international clinical study led by the Inselspital, Universitätsspital Bern, and the University of Bern has shown that anticoagulation (blood

thinning) can be started earlier in people with a stroke and atrial fibrillation than previously recommended in the guidelines. Earlier treatment could reduce the risk of having another stroke without increasing the risk of bleeding. The results of the study were published in the *New England Journal of Medicine*.

About 80 percent of all strokes are caused by a blockage of an artery in the brain (ischemia). Of these, up to 20 percent are caused by blood clots that form in the heart of people with atrial fibrillation. Atrial fibrillation is an irregular heart rhythm that affects up to five percent of people over the age of 65. Blood thinners, called direct oral anticoagulants (DOAC), are used to prevent blood clots in people with atrial fibrillation.

So far it is unclear how soon after a stroke this treatment should be started. There may be an increased risk of bleeding, which may be highest in the first few days after the stroke. On the other hand, the possible benefits of these drugs could also be greatest in the first few days.

Is early use of DOACs safe after ischemic stroke?

A new international clinical study led by the Stroke Center, Inselspital, Bern University Hospital and the University of Bern has taken up this discussion. The ELAN study (Early versus Late initiation of direct oral anticoagulants in post-ischemic stroke patients with atrial fibrillation) shows that if treatment with anticoagulants is started earlier, the chance of suffering another stroke event is probably lower than if it is a later one start of treatment. And that without increasing the risk of complications.

The 2013 study examined people with an acute ischemic stroke and atrial fibrillation. The individuals were recruited between 2017 and 2022 in 103 different stroke units in 15 countries in Europe, the Middle East

and Asia. Depending on the size and location of the stroke (i.e., mild, moderate, or severe stroke), participants were randomly assigned to start treatment earlier or later than recommended in the guidelines.

Early onset was defined as within 48 hours of a mild/moderate stroke or day six to seven after a major stroke. Late onset was defined as day three to four after a mild stroke, day six to seven after a moderate stroke, or day 12 to 14 after a major stroke. The primary aim of the study was to

The study results show that after 30 days, 2.9% of participants (29 people) in the early treatment group and 4.1% of participants (41 people) in the late treatment group had one of the aforementioned events. After 90 days, the event rate difference between the two groups was -1.9%. A new stroke occurred after 30 days in 1.4% of the participants treated early (14 people) and in 2.5% of the participants treated late (25 people). In both groups, symptomatic cerebral hemorrhages occurred in 0.2% of the participants (2 people).

"Our study provides scientific evidence for a common dilemma in early secondary prevention after ischemic stroke. In view of our results, an early start of treatment makes sense when it is indicated or desirable for logistical or other reasons," said study leader Prof. Urs Fischer from the university hospitals in Bern and Basel. Prof. Dr. Jesse Dawson of the University of Glasgow emphasizes that the study also indicates that early blood thinning carries only a small risk of cerebral hemorrhage, especially when treatment is based on imaging selection.

In a next step, the researchers want to investigate whether the risk and benefit are similar in different subgroups of the ELAN study participants, especially in people who are more severely affected.

More information: Urs Fischer et al, Early versus Later Anticoagulation for Stroke with Atrial Fibrillation, *New England Journal*

of Medicine (2023). DOI: 10.1056/NEJMoa2303048