Active components of ginkgo biloba may improve early cognitive recovery after stroke

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People with ischemic (clot-caused) stroke had better early recovery of cognitive function if treated with intravenous injections of a combination of biologically active components of ginkgo biloba during

the first two weeks after the stroke, according to a preliminary study to be presented at the American Stroke Association's International Stroke Conference 2024. The meeting will be held in Phoenix, Feb. 7-9.

Ginkgo biloba is an herb extracted from the dried leaves and seeds of the gingko tree, one of the oldest living tree species and native to East Asia. It is widely used in traditional Chinese medicine and available as a supplement in the U.S. Compounded therapies of the active ingredients of gingko biloba, delivered by IV, are widely used to treat stroke in China because of its potential antioxidant properties that may protect nerve cells from damage.

Ginkgo biloba is not approved by the U.S. Food and Drug Administration for any medicinal use, and there is not enough evidence to support any non-FDA approved use, according to the National Center for Complementary and Integrative Health, a division of the National Institutes of Health.

In early 2023, researchers from this study published the results of a multicenter trial in China indicating that people with ischemic stroke had better recovery from their overall stroke symptoms if they were treated with daily injections of ginkgo diterpene lactone meglumine (GDLM), a combination of the biologically active components of ginkgo biloba. The current investigation analyzed the cognitive recovery of participants in that study.

"If our positive results are confirmed in other trials, GDLM injections may someday be used to improve cognitive function for patients after ischemic stroke," said Anxin Wang, Ph.D., an associate professor of clinical epidemiology at the Beijing Tiantan Hospital of the Capital Medical University in Beijing.

The researchers analyzed the cognitive recovery of 3,163 stroke

survivors (average age of 63 years; 36% women) treated for mild to moderate ischemic stroke at 100 centers in China. Starting within 48 hours of the stroke, about half of the stroke survivors were randomly selected to receive daily, intravenous injections of 25 mg of GDLM for 14 days, while the other half received daily, intravenous placebo injections.

Cognitive performance was assessed before treatment, at 14 days and at 90 days using the Montreal Cognitive Assessment scale (MoCA), a 30-point face-to-face screening test of cognitive performance often used with stroke survivors. At baseline—within 48 hours of the stroke and before beginning treatment, most patients' cognitive status was moderately impaired, with an average score of 17 out of 30.

Compared to their initial cognitive screening results:

- By day 14, stroke survivors who received the ginkgo biloba compound injections had improved cognitive scores in comparison to those who received the placebo (an average of 3.93 points vs. 3.62 points higher, respectively); and
- By day 90, those who received the ginkgo biloba compound injections had even more improved cognitive scores compared to those who received the placebo (an average of 5.51 points vs. 5.04 points).

"The proportion of patients who reached a clinically significant level of improvement was 20% higher in the GDLM group, indicating that GDLM injections may improve cognitive function in patients with acute ischemic stroke," Wang said. "Since the follow-up time in this study was only 90 days, the longer-term effect of GDLM injections requires longer-term research."

"GDLM has shown a neuroprotective effect through multiple

mechanisms, such as expanding brain blood vessels and improving brain cells tolerance to hypoxia (inadequate oxygen) and increasing cerebral blood flow. GDLM also has neuroprotective antioxidation, anti-inflammation and anti-apoptosis (cell death) properties," Wang said. "Additionally, laboratory studies have previously indicated that GDLM may promote secretion of chemicals associated with avoiding neurodegenerative diseases, such as Parkinson's disease and Alzheimer's disease."

In a 2022 American Heart Association Scientific Statement: Complementary and Alternative Medicines in the Management of Heart Failure, it was noted there may be some benefits and potentially serious risks to complementary and alternative medicines, so involving the health care team is critical.

"While this American Heart Association statement focused on the use of supplements in patients with heart failure, the same approach and caution should be used when treating all cardiovascular diseases including stroke," said Chair of the scientific statement writing committee Sheryl L. Chow, Pharm.D., FAHA, an associate professor of pharmacy practice and administration at Western University of Health Sciences in Pomona, California, and an associate clinical professor of medicine at the University of California, Irvine.

"Stroke patients should not take gingko biloba or other herbs or supplements without discussing it with their doctor and pharmacist. If this new research proves to be effective in future clinical trials it may be a valuable tool for after-stroke care; however, efficacy and safety would need to be demonstrated to meet the same standards as all prescription medications and secure FDA approval," added Dr. Chow, who was not involved in this study.

The study was an exploratory analysis conducted within a larger trial, so

the results must be confirmed in an independent trial. These results of adults in China may not be generalizable to people in other countries.

More information: Abstract 62: www.abstractsonline.com/pp8/#! … 42/presentation/2380

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