Mechanical clot removal without clot busters may be sufficient stroke treatment

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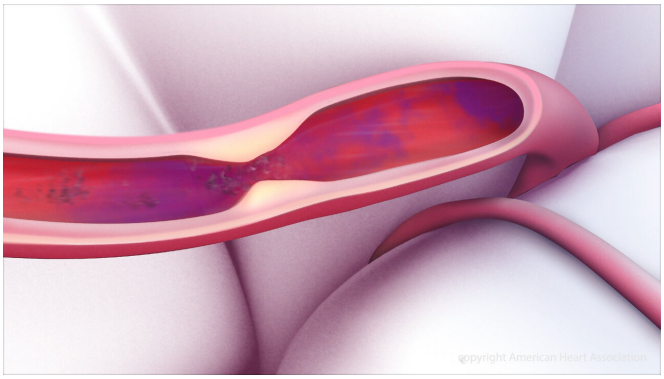

Tissue plasminogen activator working to dissolving brain clot and improving blood flow to the part of the brain being deprived. Credit: American Heart Association

Skipping IV clot-busters and using mechanical clot removal alone for strokes may be just as good as the combination of both treatments, with less risk of brain bleeding, according to late breaking science presented today at the American Stroke Association's International Stroke Conference 2020.

Using both therapies was previously reported to improve outcomes in acute stroke patients with large vessel occlusion. However, clot-busters could cause bleeding in the brain, and no studies have looked at mechanical clot removal alone without alteplase, the most commonly administered IV clot-busting medication, within 4.5 hours.

In a Japanese, multicenter, prospective, randomized trial, about 200 stroke patients (average age 74; 62% men) were assigned to either mechanical clot removal alone or the combination of IV clot-busters and mechanical clot removal. At 90 days, favorable outcomes, based on disability level, were similar: 59% for those who received clot removal alone and 57% for those who received the combination approach. There was no difference in death rates between the two groups. However, the rates of brain bleeding within 36 hours was significantly lower for the mechanical clot removal group than for the combination treatment group (34% vs. 50%, respectively).

"We feel that giving alteplase to dissolve clots is not necessary, and mechanical clot removal can be performed immediately," said Kentaro Suzuki, M.D., Ph.D., lecturer in the department of neurology at Nippon Medical School Hospital in Japan. "If we skip alteplase, we can perform mechanical thrombectomy with low risk of bleeding."

Suzuki noted that five ongoing trials including this study are investigating the optimal approach for stroke patients.

"Current recommendations from the American Heart Association/American Stroke Association recommend using intravenous therapy within the 4.5 hour-time window and then treating with mechanical clot removal, if appropriate," said Mitchell S. V. Elkind, M.D., M.S., FAHA, FAAN, president elect of the American Heart Association, past chair of the Advisory Committee of the American Stroke Association—a division of the American Heart Association and professor of neurology and epidemiology at Columbia University New York and attending neurologist at Columbia University Medical Center of the New York-Presbyterian Hospital.

"The best strategy is usually to treat with [alteplase] . . . and then if the patient is eligible, the patient goes for endovascular therapy as well," Elkind said. "But [we] don't skip that initial step because sometimes the endovascular therapy gets delayed or doesn't occur for some reason or another."

Provided by American Heart Association