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SVIN PRESIDENT TUDOR JOVIN, MD, CO-LEADS GROUNDBREAKING STROKE STUDY IN THE *NEW ENGLAND JOURNAL OF MEDICINE*

Stent retriever thrombectomy, an endovascular technique that removes blood clots from vessels in the brain reduced disability after stroke, according to a groundbreaking study co-led by Tudor Jovin, MD, President of the Society of Vascular and Interventional Neurology (SVIN).

“This is a giant step forward that will change the way we approach triage and treatment of stroke patients,” said Jovin, who is associate professor of Neurology and Neurosurgery at the University of Pittsburgh Medical Center (UPMC), director of the UPMC Stroke Institute, and Director of the UPMC Center for Neuroendovascular Therapy.

The new study, "Thrombectomy within 8 Hours after Symptom Onset in Ischemic Stroke," was published April 17 in the *New England Journal of Medicine*. The study was conducted in Catalonia, Spain, with co-principal investigator Antoni Dávalos, M.D., Ph.D., of Hospital Universitari Germans Trias i Pujol, and professor of Neurology at the Universitat Autònoma de Barcelona in Spain.

Jovin said the results of the thrombectomy trial, known as REVASCAT, support the findings from other recent large studies that show this form of endovascular therapy to be highly effective. A second study on the use of the Solitaire® stent retriever with intravenous tissue plasminogen activator (IVtPA) with (the SWIFT PRIME trial) was also published in the *NEJM's* April 17 issue.

Originally, the REVASCAT trial expected to enroll nearly 700 participants, but the study was stopped after an interim analysis showed that it was no longer ethically justified to randomly assign patients to receive only conventional therapy. “As the other studies found, removing blood clots from the brain did indeed lead to better outcomes for patients,” said Jovin.

The study was conducted at four designated stroke centers in Catalonia, Spain, between November 2012 and December 2014. The researchers treated and monitored 206 patients whose stroke symptoms began no more than eight hours earlier and who had evidence of vessel blockage in imaging studies.

For the 70 percent of patients who received an intravenous dose of the clot-busting drug tPA, or alteplase, imaging studies conducted 30 minutes after tPA administration had to confirm that the vessel was still blocked. Half of the patients were randomly assigned to receive medical therapy alone and the other half to receive medical therapy plus stent retriever thrombectomy.

The researchers found a 1.7 fold reduction in disability and a 15.5 percent increase in the rate of return to functional independence in the endovascular therapy group compared with the medical intervention-alone group.

Because the Catalan Department of Health keeps a registry of all stroke patients treated with intravenous or intra-arterial clot-busting therapies, the researchers were able to determine that nearly all eligible patients who were treated at participating centers and in Catalonia over the duration of the trial were actually enrolled in REVASCAT. This unique feature distinguished the trial from other similar recently published randomized studies, removing any lingering concerns that endovascular therapy for stroke is only beneficial for a minority of eligible patients, Jovin said.

"We now have five global studies that provide an overwhelming body of clinical evidence in support of stent retriever thrombectomy," Jovin said. He added that more work needs to be done to determine whether the technique is effective when performed more than eight hours after stroke onset, in vessels that are smaller and in different locations in the brain than those treated in REVASCAT, and in the very elderly.

The study team included researchers from Barcelona, Spain; the University of Calgary in Canada; and the Dresden University of Technology in Germany. The project was funded by the Fundació Ictus Malaltia Vascular through an unrestricted grant from device manufacturer Covidien, and by a grant from the Spanish Ministry of Health, co-financed by FEDER (Instituto de Salud Carlos III).

"Credit for these great accomplishments must be given to the community of stroke neurologists and neurointerventionalists," said Jovin "As President of SVIN, it has been particularly gratifying to note the high number of SVIN Board members who have played leadership roles in these important endovascular trials."

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