Large Canadian randomized trial shows that Tenecteplase is the preferred thrombolytic drug for stroke

*Presented at the 2022 CNSF Congress in Montreal by Dr. Bijoy Menon*

UCalgary researchers with the Calgary Stroke Program make another breakthrough in the treatment of stroke.

Study shows a heart attack drug can become the standard treatment for acute ischemic stroke

Calgary, AB – In the largest stroke clinical trial ever run in Canada, researchers have shown Tenecteplase (TNK), a safe, well tolerated drug, commonly used as a clot buster for heart attacks, is an effective treatment for acute ischemic stroke. Led by researchers with the University of Calgary at the Foothills Medical Centre and Sunnybrook Health Sciences Centre, fully affiliated with the University of Toronto, the study included 1600 patients at hospitals throughout Canada.

“It is truly an important finding that I share with my colleagues from coast to coast. Through this collaboration these findings could revolutionize stroke treatment throughout the world. Tenecteplase is known to be an effective clot dissolving drug. It is very easy to administer which makes it a game changer when seconds count to save brain cells.”

Dr. Bijoy Menon, MD, professor at the University of Calgary, neurologist at the Foothills Medical Centre and co-principal investigator on the study.

Based on current guidelines, Alteplase (tPA) is the recommended drug for acute ischemic stroke patients. The challenge is that the drug is more complex to administer. It takes up to an hour and requires an infusion pump that needs to be monitored. The pump can be cumbersome when transporting a patient within a hospital, or to a major stroke center for treatment.

“One of the reasons Tenecteplase is so effective is that in can be administered as a single immediate dose. That’s a big advantage, saving critical time and complication. TNK could potentially be administered wherever the patient is seen first, at a medical centre or small hospital.”

Dr. Rick Swartz, MD, PhD, clinician-researcher at the University of Toronto, co-principal investigator, and stroke neurologist at Sunnybrook Health Sciences Centre.
The AcT Trial compared TNK to tPA in a randomized trial. The results published in *The Lancet* show that TNK worked as well as, if not better than, the current recommended drug, tPA. TNK attaches itself to the clot for a longer period of time than tPA, which means that blood flow is restored faster and for a longer period of time. Along with discovering a better way to treat acute ischemic stroke, the team also established a more cost effective, and efficient way to conduct clinical trials.

The trial engaged patients and their families in study design and completed all enrolments during the pandemic when health systems were under significant stress. The study involved 22 primary and comprehensive stroke centers across Canada and was supported by the Canadian Institutes of Health Research (CIHR), Alberta Strategy for Patient-Oriented Research (SPOR), Quality Improvement & Clinical Research Alberta Stroke Program (QuICR), Alberta Innovates, Heart & Stroke and the Canadian Stroke Consortium.

**Brain and Mental Health strategy**

*Led by the Hotchkiss Brain Institute, Brain and Mental Health is one of six strategic research themes guiding the university towards its Eyes High goals.*

**Bijoy Menon** is a professor in the departments of Clinical Neurosciences, Radiology, and Community Health Sciences at the Cumming School of Medicine (CSM) and lead, Neuro Stroke team of the Hotchkiss Brain Institute at the CSM. He is a neurologist at the Foothills Medical Centre, Alberta Health Services.

**Richard Swartz** is an associate professor in the Department of Medicine at the University of Toronto. He is a stroke neurologist at Sunnybrook Health Science Centre and medical director, NE-GTA Regional Stroke Network; director, University of Toronto Stroke Program and co-lead of the Ontario Neurodegenerative Disease Research Initiative (ONDRI) study.

**Media inquiries**

**Kelly Johnston**
Senior Communications Specialist, UCalgary
403.617.8691
[kelly.johnston2@ucalgary.ca](mailto:kelly.johnston2@ucalgary.ca)

**Quentin Collier**
Communications, Alberta Health Services
403.617.1269
[quentin.collier@albertahealthservices](mailto:quentin.collier@albertahealthservices)

**About the University of Calgary**

UCalgary is Canada’s entrepreneurial university, located in Canada’s most enterprising city. It is a top-five research university and one of the highest-ranked universities of its age. Founded in 1966, its 35,000 students experience an innovative learning environment, made rich by research, hands-on experiences and entrepreneurial thinking. It is Canada’s leader in the creation of start-ups. **Start something** today at the University of Calgary.

For more information, visit [ucalgary.ca](http://ucalgary.ca). Stay up to date with UCalgary news headlines on Twitter [@UCalgary](https://twitter.com/UCalgary). For access to news releases, details on faculties and how to reach experts, go to our newsroom at [ucalgary.ca/newsroom](http://ucalgary.ca/newsroom).