

Study finds severe ischemic strokes are rare in patient population

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A new University of Cincinnati study provides more insight into how few patients have severe ischemic strokes compared to the total stroke patient population in the region.

UC's Yasmin Aziz, MD, will present a poster on the team's findings during the [European Stroke Organisation Conference \(ESOC\)](#) this week in Basel, Switzerland.

Ischemic strokes, the most common form of strokes, are caused by a lack of blood flow and oxygen to specific parts of the brain. When a stroke patient arrives at the hospital, Aziz explained, they undergo a CT scan that can help doctors assess the severity of the damage the stroke has caused using a 10-point scale.

"Low scores indicate bigger strokes, while higher scores indicate smaller ones," said Aziz, assistant professor in the Department of Neurology and Rehabilitation Medicine in UC's College of Medicine and a neurologist at the UC Gardner Neuroscience Institute. "Much of our early treatment options and long-term prognosis depend on this simple score, as strokes due to [blood clots](#) can grow without intervention."

Aziz said this study asked a simple question: How many patients in the region arrive at the hospital with low scores?

Using data from the ongoing Greater Cincinnati/Northern Kentucky Stroke Study, the team found nearly 90% of all patients who arrive at the hospital within 24 hours of symptom onset have minimal ischemic damage on their CT scans, or scores of 9–10 on the scale.

When narrowing down the data to the most severe type of stroke caused by blood clots in the brain, the team found around 14% of these patients have the most severe damage, or scores of 0–2 on the scale.

"Patients with low scores due to large strokes require considerable resources from the health care system in order to facilitate their care," Aziz said. "A lot of research in the last two years has been dedicated to determining if we can treat patients with really low scores. Our results

show the rarity of these severe strokes in a real-world population, rather than in a strictly controlled clinical trial setting."

Aziz said she was not surprised by the results, as the data on the occurrence of patients with low scores lined up with prior estimates.

"Thankfully, the majority of strokes are not due to large vessel occlusion, or due to blood clots in vessels supplying large areas of the brain," she said.

A recent series of clinical trials has shown benefit to blood clot removal for patients with severe strokes, and the research community is working to adjust to this [paradigm shift](#), Aziz said. The study's data on how common these strokes occur is part of a larger puzzle to optimize research and patient care for all patients, she said.

This study is one of the first publications to come out of the Assessing Population-based Radiological brain health in Stroke Epidemiology (APRISE) study, an offshoot of the Cincinnati-area stroke study that adds a neuroimaging component to the data collection and research.

"Our team, comprised of internationally renowned experts in stroke epidemiology, radiology and acute stroke treatment, is extremely excited to utilize APRISE to provide the highest quality research to our field," Aziz said. "We are deeply thankful to the community for their participation in this research, which will be shared with experts from all around the world at ESOC. Together, we hope to push the boundaries of treatment for stroke patients."

Aziz will present "Early Ischemic Change at Late Ischemic Stroke Presentation is Uncommon: A Population-Based Study of the Greater Cincinnati Northern Kentucky Stroke Study" May 15 at ESOC.

Provided by University of Cincinnati

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