Study points to optimal blood pressure treatment for stroke patients

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Aggressive treatment of hypertension in stroke patients could do more harm than good in the long term, according to a new study from researchers at the University of Georgia.

Sixty percent of stroke patients admitted to U.S. emergency rooms have

elevated blood pressure, and many studies say that having high blood pressure at the time of stroke can lead to higher rates of death and major disability.

But lowering blood pressure too much with medications may actually be working against the body's protective response to maintain blood flow into the affected brain tissues.

"This presents a clinical dilemma," said study author Changwei Li, an assistant professor of epidemiology and biostatistics at UGA's College of Public Health.

It may be better to keep blood pressure a little higher than normal, closer to 140/90 mmHg rather than a "good" blood pressure of 120/80 mmHg, but that leaves the question of best practices a little open-ended.

"Currently, hypertension treatment for acute stroke patients is based on physicians' clinical experience and judgement," said Li. "There is no guideline on how low the blood pressure should be maintained."

The key is to find the right balance between maintaining blood flow to the brain and reducing negative short- and long-term effects.

To help identify this optimal blood pressure, Li and his co-authors looked at the relationship between blood pressure during stroke and both short- and long-term health outcomes for over 4,000 Chinese stroke patients participating in the China Antihypertensive Trial in Acute Ischemic Stroke study. One group of stroke patients received extensive treatment for high blood pressure while a control group received no treatment at the time of their stroke.

Li and his collaborators tracked blood pressure changes over time in both the treatment and control groups during the first week of hospital

admission and compared patient health at one week, three months, one year and two years following the stroke across patients of different blood pressure trajectories.

"We hypothesized that well-managed blood pressure may reduce further tissue death around the affected area and avoid damage to arteries, and both have short-term and long-term benefit to the patients," said Li.

They found that patients whose systolic blood pressure was maintained at around 140 mmHg experienced fewer negative health outcomes, such as a second stroke, death or cardiovascular disease. Li said the findings provide some clarity for physicians.

"However, the optimal level of blood pressure identified in our study still needs to be confirmed by large-scale randomized controlled clinical trials," he added.

More information: Changwei Li et al, Systolic Blood Pressure Trajectories in the Acute Phase and Clinical Outcomes in Two-year Follow-up among Patients with Ischemic Stroke, *American Journal of Hypertension* (2018). DOI: 10.1093/ajh/hpy174

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