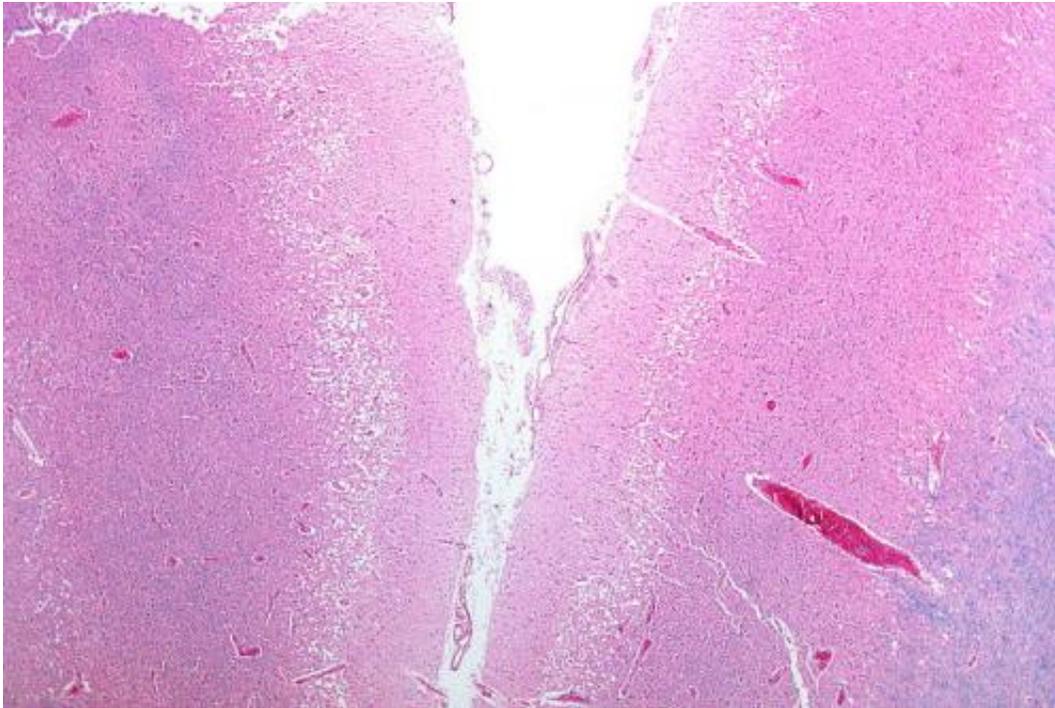


New gene responsible for stroke discovered

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Micrograph showing cortical pseudolaminar necrosis, a finding seen in strokes on medical imaging and at autopsy. H&E-LFB stain. Credit: Nephron/Wikipedia

Researchers have identified a new set of genes that may be responsible for the two most common and disabling neurological conditions, stroke and dementia.

The study, which appears in the journal *Lancet Neurology*, may help researchers better understand, treat and prevent ischemic and hemorrhagic stroke, and perhaps Alzheimer's disease and other

dementias.

Stroke is the leading neurological cause of death and disability worldwide. Previous studies have looked mainly at genes causing atherosclerosis and genes affecting the function of platelets and clotting processes as risk factors for [ischemic stroke](#) (clot obstructing blood flow to the brain). A different set of genes have been associated with hemorrhagic stroke (bleeding into the brain).

Researchers from Boston University School of Medicine looked for new stroke genes using genome wide association as well as meta-analysis. They identified a new gene called FOXF2 which increased the risk of having a stroke due to small vessel disease in the brain. No previous study has identified a gene for the common type of small vessel disease stroke although some genes associated with familial small vessel diseases such as CADASIL are known.

"Our research has identified a gene affecting another type of ischemic stroke, due to small vessel disease, and also suggests some genes may be associated with both ischemic and [hemorrhagic stroke](#) and may act through a novel pathway affecting pericytes, a type of cell in the wall of small arteries and capillaries. Unraveling the mechanisms of small [vessel disease](#) is essential for the development of therapeutic and preventive strategies for this major cause of stroke," explained corresponding author Sudha Seshadri, MD, professor of neurology at BUSM.

According to the researchers [small vessel](#) disease not only causes stroke but is also a major contributor to dementia risk, and is associated with gait problems and depression. "Hence, it is exciting that we are beginning to better understand the cause of this very important and poorly understood type of [stroke](#)," she added.

Provided by Boston University Medical Center

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