

Exposure to several common infections over time may be associated with risk of stroke

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Cumulative exposure to five common infection-causing pathogens may be associated with an increased risk of stroke, according to a report posted online today that will appear in the January 2010 print issue of *Archives of Neurology*.

Stroke is the third leading cause of death and leading cause of serious disability in the United States, according to background information in the article. Known risk factors include high [blood pressure](#), heart disease, abnormal cholesterol levels and smoking, but many strokes occur in patients with none of these factors. "There is therefore interest in identifying additional modifiable risk factors," the authors write.

Some evidence exists that prior infection with pathogens such as herpes viruses promotes inflammation, contributes to arterial disease and thereby increases [stroke](#) risk. Mitchell S. V. Elkind, M.D., M.S., of Columbia University Medical Center, New York, and colleagues studied 1,625 adults (average age 68.4) living in the multi-ethnic urban community of northern Manhattan, New York. Blood was obtained from all participants—none of whom had a stroke—and was tested for antibodies indicating prior exposure to five common pathogens: [Chlamydia pneumoniae](#), *Helicobacter pylori*, [cytomegalovirus](#) and [herpes simplex virus](#) 1 and 2. A weighted composite index of exposure to all five pathogens was developed.

Participants were followed up annually over a median (midpoint) of 7.6 years. During this time period, 67 had strokes. "Each individual infection

was positively, though not significantly, associated with stroke risk after adjusting for other risk factors," the authors write. "The infectious burden index was associated with an increased risk of all strokes after adjusting for demographics and risk factors."

There were several reasons to investigate these five particular pathogens, the authors note. "First, each of these common pathogens may persist after an [acute infection](#) and thus contribute to perpetuating a state of chronic, low-level infection," they write. "Second, prior studies demonstrated an association between each of these pathogens and cardiovascular diseases." Studies examining several of these pathogens individually have suggested some may contribute to stroke risk.

"Our study could have potential clinical implications," the authors conclude. "For example, treatment and eradication of these chronic pathogens might mitigate future risk of stroke. Antibiotic therapy directed against *C pneumoniae* has been tested in randomized controlled trials without evidence of benefit against heart disease. Whether the same holds true for stroke has not yet been established. More studies will be required to further explore infectious burden as a potential modifiable risk factor for stroke."

[More information:](#) Arch Neurol 2010; 67(1),
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