Medical Xpress

Common infections linked to stroke in children, vaccines may reduce risk

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Common infections are associated with a significantly higher chance of stroke in children, but routine vaccinations may help decrease risk, according to preliminary research presented at the American Stroke Association's International Stroke Conference 2014.

"The protective association of routine vaccination against childhood stroke provides a widely available means of prevention, and this information can easily be dispersed by pediatric healthcare providers," said Nancy Hills, Ph.D., M.B.A., lead researcher and assistant professor of neurology at the University of California, San Francisco Medical Center.

The international study, Vascular effects of Infection in Pediatric Stroke (VIPS) is a prospective study examining the link between infections and ischemic stroke, the most common type of stroke. (Ischemic stroke is caused by a clot that blocks blood flow in or leading to the brain.)

Previous research by Hills and co-authors found that minor infections were related to an increased risk, but it was unclear whether infection actually could help predict future stroke.

In the VIPS study, researchers found that common infections within the past week were linked to more than six times the risk of stroke, Hills said. Seventeen percent of the stroke patients vs. 3 percent of the non-stroke patients were reported to have had any minor infection in the prior week. The most frequent types of infection were colds and other

upper respiratory infections (8 percent of the stroke and 2.4 percent of the non-stroke patients reported an occurrence of these kinds of infections in the prior week).

However, routine vaccinations were associated with a lower stroke risk.

Children who had "some, few or no" routine vaccinations were 6.7 times more likely to have an ischemic stroke than those receiving "all or most" vaccines, including those against polio, measles, mumps, rubella and pneumococcus.

Researchers interviewed parents or guardians of 310 children who had a stroke to determine the presence and timing of any infectious illnesses prior to their stroke. They compared their findings with 289 children who hadn't experienced a stroke, but had visited the doctor for an annual checkup, routine follow-up for headaches or developmental delay, or trauma.

The median age of the children who had a stroke was 7.5 years, and the median age among the comparison group was slightly more than 8.

"Because many childhood strokes appear to have no clear cause, and others likely have more than one cause, preventive measures have not been forthcoming," Hills said. "It is very promising that childhood vaccinations appear to have a protective effect."

In other VIPS analyses (abstracts 36 & 38) researchers found that infections with parvovirus B19 (the cause of "slapped cheek syndrome") and different herpes viruses also were linked to a significantly greater stroke risk. Blood tests indicated that 41 percent of stroke patients had an active herpes infection, compared to 9 percent of non-stroke patients.

"VIPS is the largest-ever NIH-funded study of childhood stroke," said

Heather J. Fullerton, M.D., M.A.S., principal investigator for the VIPS study and Professor of Neurology and Pediatrics at University of California San Francisco. "These three abstracts represent the first results of this important international effort."

Provided by American Heart Association