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Flu Vaccine Associated With Slight Increase In Risk Of Hospitalization For Neurological Disorder

Influenza vaccine is associated with a small but increased risk for hospitalization with the potentially debilitating neurological disorder known as Guillain-Barré syndrome, although the absolute risk associated with the vaccine is very low, according to a report in the November 13 issue of Archives of Internal Medicine, one of the JAMA/Archives journals.

Guillain-Barré syndrome affects about one in 100,000 individuals per year, according to background information in the article. The disorder occurs when the body's immune system attacks part of the nervous system, causing weakness or tingling that can eventually worsen to paralysis. Previous reports have linked influenza vaccine to the development of Guillain-Barré syndrome, but uncertainty remains about the association.

David N. Juurlink, M.D., Ph.D., Institute for Clinical Evaluative Sciences (ICES), University of Toronto, Ontario, and colleagues studied residents of Ontario, Canada, where a universal influenza immunization program that provides free yearly vaccinations to all residents age 6 months or older was instituted in October 2000. First, the researchers identified all the cases of hospitalization for Guillain-Barré syndrome among Ontario residents age 18 and older between April 1, 1993, and March 31, 2004. They then identified which of those patients had received flu vaccines and compared their risk for hospitalization for Guillain-Barré syndrome within two to seven weeks after vaccination to the time period 20 to 43 weeks later. In a second analysis examining the total number of hospitalizations for Guillain-Barré syndrome in Ontario between 1991 and 2004, the investigators compared the numbers of cases before and after the immunization program began in 2000.

Between 1993 and 2004, the researchers identified 1,601 hospital admissions due to Guillain-Barré syndrome in Ontario, 269 of which occurred within 43 weeks of the patient receiving a vaccine in October or November (which was assumed to be an influenza vaccine). Patients were about one and a half times as likely to be hospitalized for Guillain-Barré syndrome in the two to seven weeks after vaccination than they were 20 to 43 weeks later. In the second analysis, the researchers looked at the 2,173 hospital admissions due to Guillain-Barré syndrome that occurred in Ontario between 1991 and 2004 (170 new cases per year, or about 14 cases per million persons per year). They did not find any significant difference in the rate of hospitalization for Guillain-Barré syndrome before and after the inception of the immunization program.

"Our results must be interpreted carefully," the authors write. "The increase in relative risk we observed corresponds to a very low absolute risk for Guillain-Barré syndrome, given the low baseline incidence of the disease (approximately one in 100,000 population). Furthermore, the lack of association on a population health level is consistent with the prevalent impression that influenza vaccine is only one of many potential causes of Guillain-Barré syndrome."

Because of the low overall risk for Guillain-Barré syndrome, physicians and patients should primarily consider the benefits of flu vaccines when making a decision about whether or not to get immunized. However, individuals who receive the shots should be told about the risk for Guillain-Barré syndrome and a surveillance strategy should be implemented as part of any mass vaccination program.

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