

Getting influenza raises heart attack risk, especially in seniors: study

Written by Sheryl Ubelacker on January 25, 2018 for The Canadian Press

Toronto – Having the flu significantly raises the risk of having a heart attack, especially among those age 65 and older, an Ontario study suggests.

“What we found is that you’re six times more likely to have a heart attack during the week after being diagnosed with influenza, compared with a year before or a year after the infection,” said Dr. Jeff Kwong, lead author of the study published Jan. 23 in the [New England Journal of Medicine](#).

“What we were also surprised about is that we found that there was an increased risk with other respiratory viruses as well,” said Dr. Kwong, a scientist at Public Health Ontario and the Institute for Clinical Evaluative Sciences in Toronto.

Infection with an influenza virus appears to have the most profound effect, but the risk of having a heart attack was also somewhat increased by such pathogens as respiratory syncytial virus (RSV) and cold-causing adenoviruses and rhinoviruses, he said.

To conduct the study, researchers looked at almost 20,000 adult cases of laboratory-confirmed influenza infections from 2009 to 2014 and identified 332 patients who were hospitalized for a heart attack within one year before and one year after their flu diagnosis.

Of these, 20 patients had a heart attack within seven days of their flu diagnosis, said Dr. Kwong, noting that about 75% were age 65 and older and most had some form of cardiovascular disease, such as high blood pressure. Roughly 25% had experienced a previous heart attack.

About one-third of the patients with influenza-associated heart attacks died.

Dr. Kwong said 31% of the patients who experienced a heart attack had not been vaccinated against seasonal flu, although he cautioned the connection “requires a bit of careful interpretation.

“We know that influenza vaccines aren’t 100% effective. Some people who get vaccinated are still going to get influenza,” he said.

“If you got vaccinated and you still got influenza, you were still at an increased risk of a heart attack at the same level as those who didn’t get vaccinated and got influenza.

"That doesn't mean it's not worth getting vaccinated," Dr. Kwong stressed. "It just means that it only works (to reduce the risk of a heart attack) by preventing infection."

Studies show the protective antibody response to vaccines mounted by seniors is not as robust as it is for younger people, due to the immune system weakening with age.

Even so, people aged 65-plus—as well as those with underlying medical conditions or compromised immune systems—are urged to get the flu shot as they are more susceptible to complications if they do come down with the infection.

That includes people with cardiovascular disease, said Dr. Kwong.

Cardiologist Dr. Thais Coutinho, head of prevention and rehabilitation at the Ottawa Heart Institute, said the findings confirm what previous research has suggested about the link between influenza and heart attacks, but this study found "even a greater magnitude of risk.

"It's really showing that around the time of the influenza season, as the rates of influenza go up, the rate of heart attacks go up too," said Dr. Coutinho, who was not involved in the study.

While it's not known exactly how being sick with the flu triggers a heart attack in some people, she said there are a number of potential causes.

As the body's immune system fights the infection, it gives rise to an inflammatory response not only in the respiratory tract but throughout the body, increasing demands on the heart to pump more oxygen-rich blood. That imbalance between demand and supply can tip a patient over the edge into a heart attack, she said.

Inflammation can also rupture built-up plaque in the coronary arteries, causing blood clots to form and clog the vessels, leading to a heart attack. The inflammatory response can also make platelets stickier and more likely to clot, and arteries to become narrowed, further impairing blood flow.

"So all of these things are possibilities through which influenza may lead to a heart attack," she said, adding that the study's findings provide a good opportunity to send the message for people to get the flu shot.

And while the vaccine is far from perfect, Dr. Coutinho conceded, "any protection is better than no protection."