Myocarditis, pericarditis risk highest after second COVID-19 vaccine dose

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The risk for myocarditis and pericarditis after COVID-19 mRNA

vaccines is highest in young men after the second vaccine dose, according to a study published online April 20 in *JAMA Cardiology*.

Øystein Karlstad, Ph.D., from the Norwegian Institute of Public Health in Oslo, and colleagues evaluated the risks of myocarditis and pericarditis among 23.1 million residents (aged 12 years and older) of four Nordic countries.

The researchers identified 1,077 incident myocarditis events and 1,149 incident pericarditis events. The second vaccine dose was associated with a higher risk for myocarditis within 28 days, with adjusted incidence rate ratios (IRRs) of 1.75 for BNT162b2 and 6.57 for mRNA-1273 among all individuals aged 12 years and older who received a homologous schedule. The adjusted IRRs among males aged 16 to 24 years were 5.31 for a second dose of BNT162b2 and 13.83 for a second dose of mRNA-1273. The numbers of excess events were 5.55 events per 100,000 vaccinees after the second dose of BNT162b2 and 18.39 events per 100,000 vaccinees after the second dose of mRNA-1273. Similar estimates were seen for pericarditis.

"The risk of myocarditis in this large cohort study was highest in young males after the second severe acute respiratory syndrome coronavirus 2 vaccine dose, and this risk should be balanced against the benefits of protecting against severe COVID-19 disease," the authors write.

Several authors disclosed financial ties to the pharmaceutical industry.

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