https://www.cidrap.umn.edu/news-perspective/2022/11/myocarditis-after-mrna-covid-vaccine-risk-real-rare-young-men

A new large Canadian study shows a small but significant increased risk in myocarditis among young men who get mRNA COVID-19 vaccines, especially the second dose of the Moderna vaccine. The study is published in *CMAJ* (*Canadian Medical Association Journal*).

The study was based on outcome seen during the BC COVID-19 Cohort study, which included more than 10.2 million doses of mRNA vaccines administered to people 12 years and older from Dec 15, 2020, to Mar 10, 2022. Seven million were BNT162b2 (Pfizer-BioNTech) doses and 3.2 million were mRNA-1273 (Moderna) doses, and the authors examined cases of myocarditis, or inflammation of the heart muscle, which were identified 7-21 days after vaccination and required hospitalization.

The authors recorded 99 incident cases of myocarditis within 7 days, compared with 7 expected cases, and 141 cases within 21 days post-vaccination, compared with 20 expected cases. Overall, myocarditis was seen at a rate of 1.37 per 100,000 vaccine doses, compared with an expected rate of 0.39 per 100,000 people who were not vaccinated.

Males aged 18-29 were at the most risk of developing the condition, especially if they received the Moderna vaccine twice. Overall myocarditis rates among males in this age group were 2.97 per 100,000, which rose to 2.27 per 100,000 after the second dose. Among men ages 18 to 29 who received the Moderna vaccine, the rate was 22.9 per 100,000 doses.

In a press release, the authors said their findings "support the preferential use of the BNT162b2 (Pfizer-BioNTech) vaccine over the mRNA-1273 (Moderna) vaccine for people aged 18–29 years."

"Although observed rates of myocarditis were higher than expected, the benefits of vaccination against SARS-CoV-2 in reducing the severity of COVID-19, hospital admission, and deaths far outweigh the risk of developing myocarditis," the authors said.