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## Reduced Risk of CVD After COVID Vaccination



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The primary goal of COVID-19 vaccination is to reduce the risk of infection, complications, and fatalities. However, the vaccine may also pose a small risk for certain cardiovascular events. The European Medicines Agency has identified myocarditis and pericarditis as very rare adverse effects (fewer than 1 in 10,000 cases) following mRNA vaccination against SARS-CoV-2, with the highest incidence occurring in young males, particularly within 14 days of vaccination and more commonly after the second dose. Data from the USA, Israel, England, Korea, and several Nordic countries have supported these findings. This raises the question of whether other cardiovascular outcomes could also be affected by vaccination.

Early clinical trial data from Pfizer and Moderna indicated a low incidence of myocardial infarction (MI) among vaccinated individuals. Case reports have described acute MI events shortly after vaccination, particularly in elderly patients, but population-based studies providing evidence of a direct link are lacking.

A self-controlled study in France found no increased incidence of acute MI within 14 days after the Pfizer vaccine in individuals aged 75 and older. Similarly, a Korean cohort study showed that fully vaccinated adults had a reduced risk of MI 31–120 days after a COVID-19 diagnosis. Despite isolated reports, the evidence does not suggest that COVID-19 vaccination increases the risk of MI. This could be due to the vaccine's protective effects against severe COVID-19 infection, a known cause of MI.

Atrial fibrillation (AF) has also been reported in some case studies following vaccination. Data from the U.S. Vaccine Adverse Event Reporting System (VAERS) and a UK population-based study have suggested a potential link between mRNA vaccines and AF, though the overall incidence remains very low.

Regarding stroke, case reports indicate that most stroke events after vaccination have occurred in women under 60, though the overall incidence is unclear. One study using disproportionality analysis suggested a potential link between mRNA vaccines or the AZD1222 vaccine and ischaemic stroke or transient ischaemic attack (TIA). However, population-based studies from France and Korea found no increased risk of stroke following vaccination and suggested a reduced risk.

A nationwide register-based cohort study by the University of Gothenburg aimed to assess the risks of several cardiovascular and cerebrovascular events within different risk windows following one, two, or three vaccine doses. According to the study, people fully vaccinated against COVID-19 have a significantly reduced risk of developing severe cardiovascular conditions linked to COVID-19 infection. The study is published in the *European Heart Journal*.

The analysis included over eight million adults in Sweden and spanned approximately two years. Researchers assessed “risk windows” following each vaccine dose and compared cardiovascular outcomes in fully vaccinated individuals to those who remained unvaccinated.

Risk analysis included several cardiovascular conditions related to the heart and brain, such as myocarditis, pericarditis, arrhythmias, heart failure, TIA, and stroke. The study found that full vaccination reduced the risk of cardiovascular events by 20-30%, especially after the third dose. However, there was a confirmed increase in myocarditis or pericarditis one to two weeks after an mRNA vaccine dose.

There was also a temporarily increased risk of extrasystoles after the first and second doses, particularly among older men, but no increased risk of serious arrhythmias. The risk of stroke was lower following vaccination, while TIA risk was briefly higher after the first dose, particularly in older men.

The study emphasises that the significant protection against severe conditions like heart attack, stroke, and heart failure outweighs the temporary cardiovascular risks following vaccination. Study researchers highlight the vaccine's protective benefits, reinforcing the importance of full vaccination in reducing severe cardiovascular outcomes linked to COVID-19.

Source: [European Heart Journal](#)

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