

Vaccination-associated cardiac adverse events rare

The incidence of cardiac adverse events (AEs) after vaccination is much lower than that of cardiac AEs from other causes.

This is the main finding of a systematic review of studies that described cardiac AEs following any type of vaccination in adults. The literature search involved three electronic databases (PubMed, EMBASE and Scopus) from inception up to July 2021.

The review included 56 studies that described cardiac AEs after vaccination, with a total of 340 patients. Twenty studies reported cardiac AEs after smallpox vaccination, 18 studies described cardiac AEs following COVID-19 vaccination, and 11 studies reported cardiac AEs following influenza vaccination. Less common were reports of cardiac AEs following tetanus vaccination (n = 3), pneumococcal vaccination (2), cholera vaccination (1) and rabies vaccination (1). Among the 232 patients who developed cardiac AEs following smallpox vaccination, the most common event was myocarditis/myopericarditis (212 patients). Twenty-six patients had acute coronary syndrome (ACS) following smallpox vaccination. Most patients developed cardiac AEs following the first dose. There was one death, and all other patients recovered. A total of 67 patients developed cardiac AEs following COVID-19 vaccination, most commonly following mRNA COVID-19 vaccines (BNT162b2 [Pfizer-BioNTech]: n = 35; mRNA-1273 [Moderna]: n = 26). Most patients developed a reaction after the second dose. Myocarditis/myopericarditis was the most common AE following COVID-19 vaccination (35 of 67 patients). ACS was described in 6 patients. There was one death, and all other patients recovered. A total of 34 patients developed cardiac AEs following influenza vaccination, with myocarditis/myopericarditis being the most common AE (n = 29). All patients recovered. "The incidence of cardiac AEs from vaccination remains much lower than cardiac AEs from other causes, but providers should be cautious of these AEs after vaccination," conclude the researchers.