

EDITORIAL

COVID-19 Messenger RNA Vaccination and Myocarditis— A Rare and Mostly Mild Adverse Effect

Vinay Guduguntla, MD; Mitchell H. Katz, MD

Several recent case series have described acute myocarditis after COVID-19 messenger RNA (mRNA) vaccination.^{1,2} While the cardiac complications of vaccines are important, discussion has been limited by small sample sizes that lack gender and racial and ethnic diversity. In this issue of *JAMA Internal Medicine*,



Related article

Simone et al³ examine the incidence and outcomes of acute myocarditis following COVID-19 mRNA vaccination in a large community health system. During the 6 months of follow-up, there were 15 cases of myocarditis among the 2392 924 Kaiser Permanente Southern California members who received at least 1 dose of the Pfizer and Moderna vaccines (1 case per 172 414 fully vaccinated individuals). This represents a relative ratio of 2.7 compared with unvaccinated individuals. The study population was 54.0% women and 31.2% White, 6.7% Black, 37.8% Hispanic, and 14.3% Asian individuals. Interestingly, the affected patients were all men younger than 40 years with no prior cardiac history, and

they were discharged within a week of conservative management.³ These results parallel prior studies that showed incidence of post-COVID-19 mRNA vaccination myocarditis primarily in young men who have recently received their second vaccine dose.¹

Overall, vaccination-related myocarditis was a rare and mostly mild adverse event. Data from the Vaccine Adverse Event Reporting System indicate that it is not unique to just the COVID-19 mRNA vaccine.⁴ Moreover, this risk is small when weighed with the morbidity and mortality of COVID-19 infection, in which up to 28% of hospitalized patients showed signs of myocardial injury.⁵ Randomized clinical trials show that COVID-19 mRNA vaccines represent a safe and effective method of preventing infection; the identification of rare myocarditis does not change clinical decision-making. However, it would be worthwhile to identify the mechanism of cardiac injury from vaccines. In addition, we anticipate seeing more cases of myocarditis, as vaccination was recently approved for teenage males aged 12 to 16 years.

ARTICLE INFORMATION

Author Affiliations: Department of Medicine, University of California, San Francisco (Guduguntla); Editorial Fellow, *JAMA Internal Medicine* (Guduguntla); NYC Health + Hospitals, New York, New York (Katz); Deputy Editor, *JAMA Internal Medicine* (Katz).

Corresponding Author: Vinay Guduguntla, MD, University of California, San Francisco, 505 Parnassus Ave, Room M-1480, San Francisco, CA 94131 (vinay.guduguntla@ucsf.edu).

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