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Smallpox: People With Known Cardiac Disease Should Not Be Vaccinated

CDC has received reports (described below) of cardiac events following smallpox vaccinations. Although it is unclear whether or not there is any association between smallpox vaccination and other cardiac events, CDC recommends, as a precautionary measure, that persons with known cardiac disease (e.g., cardiomyopathy, previous myocardial infarction, history of angina, or other evidence of coronary artery disease) not be vaccinated as response team members in the smallpox pre-event vaccination program at this time. This exclusion may be removed as more information becomes available. Vaccination of other persons should be continued as planned.

In addition, data from recent smallpox vaccinations have been found to be consistent with a causal association between vaccination and myopericarditis. Persons receiving smallpox vaccine should be informed that myopericarditis is a potential complication of smallpox vaccination and that they should seek medical attention if they develop chest pain, shortness of breath, or other symptoms of cardiac disease within two weeks after vaccination.

Civilian Vaccinations:

In the civilian vaccination program, 25,645 persons have been vaccinated as of March 21, 2003. Among civilian vaccinees, 7 adverse events of cardiac origin have been reported. These include 2 cases of myopericarditis, 3 acute myocardial infarctions, and 2 cases of angina without myocardial infarction. One of the patients with myocardial infarction died. There is no clustering of events in time after vaccination. Onsets ranged from 2 to 17 days after vaccination (median 5 days). In addition, 5 vaccinees have been evaluated for chest pain, but evaluation of these patients to date has not found evidence of cardiac involvement.

A small number of deaths following vaccination would be expected to occur by chance alone, given the numbers of persons already vaccinated in the civilian program. Using the data available on age distribution of vaccinated persons and 2000 age-specific, all-cause mortality rates, 2 deaths are expected by chance alone within 3 weeks of vaccination among persons 45-54 years of age, and an additional 2 to 3 deaths among vaccinees 55-64 years of age. Among persons 45-64 years of age, 1 death due to cardiac causes is expected to occur within 3 weeks of vaccination among the persons in this age group vaccinated in the civilian program.

Military Vaccinations:

Ten cases of myopericarditis have been reported among several hundred thousand recent U.S. military vaccinees. Diagnoses were based on clinical, laboratory, EKG and/or echocardiographic evidence of myocardial or pericardial inflammation. All had onset 6 to 12 days following vaccination; none of the cases have been clinically severe, and all the patients are reported to have recovered fully. No cases of myocarditis or pericarditis were detected among approximately 100,000 persons in the military program who were revaccinated. Myocarditis has been reported previously following smallpox vaccinees in Europe, but had not been a well-recognized complication following vaccination with the U.S.-licensed New York City Board of Health vaccine.

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES