in hospital B used fit-tested N95 respirators and wore gowns and gloves but did not wear eye protection.

The patient had close contact with four family members before SARS was diagnosed. Beginning April 9, the patient and his family members reported intermittently wearing surgical masks during close contact. One family member reported illness consistent with the case definition for suspect SARS; however, symptom onset occurred before contact with the index patient; this family member’s illness has resolved and persons who had contact with this family member are being monitored. Among six additional nonfamily contacts, one reported new respiratory symptoms since exposure, but continues to be without fever or other symptoms of SARS. The investigation is ongoing and SARS-CoV testing of specimens from all contacts is under way.

Reported by: State and local health departments. SARS Investigative Team; A Peck, MD, C Newbern, PhD, EIS officers, CDC.

CDC Editorial Note: The majority of suspect and probable cases of SARS in the United States continue to be travel associated, with only limited secondary spread to contacts such as family members and HCWs. Toronto has been added to the list of areas with suspected or documented community transmission of SARS included in the interim U.S. SARS case definition.2 SARS transmission in Toronto has been limited to a small number of hospitals, households, and specific community settings. In particular, cases of SARS have been documented among some members of a religious community who attended a large gathering in Toronto in late March; some of these persons infected family members of their households and other close contacts.4 In response to these reports, CDC recommended that U.S. travelers to Toronto observe precautions to safeguard their health, including avoidance of places in which SARS is most likely to be transmitted (e.g., Toronto health-care facilities).5 The Pennsylvania resident who attended this religious meeting is the only reported U.S. patient with SARS associated with travel to Toronto.

The availability of diagnostic testing for SARS-CoV is critical to more precisely characterize the epidemiology and clinical spectrum of the SARS epidemic, both worldwide and in the United States. Many U.S. patients, particularly those with milder clinical illness, have tested negative for SARS-CoV, reflecting the low specificity of the current case definition, which captures persons with respiratory infections caused by other infectious agents, and underscoring the importance of obtaining convalescent serum samples to make a final determination about infection with SARS-CoV. CDC is planning to update its interim surveillance case definition for SARS to include laboratory criteria in addition to the clinical and epidemiologic criteria.

Careful attention to infection-control precautions, both in home and health-care settings, remains critical to containment of SARS. Symptomatic persons should use infection-control precautions to minimize the potential for transmission and should seek health-care evaluation.6 Patients should inform health-care providers about the symptoms in advance so arrangements can be made, if necessary, to prevent potential transmission to others in the health-care setting. Patients in ambulatory settings should be screened promptly for fever, respiratory symptoms, recent travel, and close contact with SARS patients.7 The investigations summarized in this report suggest that, although both patients and health-care providers are aware of appropriate infection-control precautions, additional efforts are needed to ensure that recommended precautions are instituted immediately when SARS is suspected and that such precautions are used consistently and correctly thereafter.

Acknowledgments

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Update: Adverse Events Following Civilian Smallpox Vaccination—United States, 2003

MMWR. 2003;52:360-363

3 tables omitted

During January 24–April 18, 2003, smallpox vaccine was administered to 33,444 civilian health-care and public health workers in 54 jurisdictions to prepare the United States for a possible terrorist attack using smallpox virus. This report updates information on vaccine-associated adverse events among civilians vaccinated since the beginning of the program and among contacts of vaccinees, received by CDC from the Vaccine Adverse Event Reporting System (VAERS) as of April 18.

In this vaccination program, CDC, the Food and Drug Administration, and state health departments are conducting surveillance for vaccine-associated adverse events among civilian vaccinees.1 As part of the vaccination program, civilian vaccinees receive routine follow-up, and reported adverse
events after vaccination receive follow-up as needed. The U.S. Department of Defense is conducting surveillance for vaccine-associated adverse events among military vaccinees and providing follow-up care to those persons with reported adverse events.

Adverse events that have been associated with smallpox vaccination are classified on the basis of evidence supporting the reported diagnoses. Cases verified by virologic testing are classified as confirmed. Cases are classified as probable if possible alternative etiologies are investigated and excluded and supportive information for the diagnosis is found. Cases are classified as suspected if they have clinical features compatible with the diagnosis, but either further investigation is required or investigation of the case did not provide supporting evidence for the diagnosis. All reports of events that follow vaccination are accepted (i.e., events associated temporally); however, reported adverse events are not necessarily associated causally with vaccination, and some or all of these events might be coincidental.

As of April 18, a total of 10 cases of myopericarditis have been reported; one new report was received during April 14-18. During the same period, one new case of acute myocardial infarction (MI) was reported. Five cases of acute MI were previously reported.1,2

Case 1. A woman aged 56 years with no history of heart disease was revaccinated on April 1. Approximately 1 week later, she had palpitations and was noted to have premature ventricular contractions on cardiac monitor. She did not report chest pain. On April 15, cardiac consultation indicated an effusion on her echocardiogram and mitral regurgitation. A working diagnosis of myocarditis/pericarditis was made. The patient was treated with nonsteroidal anti-inflammatory drugs and investigation continues.

Case 2. A man aged 49 years with no personal or family history of coronary artery disease was revaccinated on March 12. On the evening of April 7, he had an episode of chest pain that he attributed to indigestion. On April 8, while driving, he experienced increasingly severe chest pain, dyspnea, and diaphoresis. In the emergency department, an electrocardiogram showed nonspecific ST- and T-wave abnormalities and poor R-wave progression, all consistent with an anterior MI. Total creatine kinase and troponin-I assays were substantially elevated. Cardiac catheterization indicated an anterior MI caused by complete occlusion of the left anterior descending artery. Successful percutaneous transcoronary angioplasty and stent placement were performed, and the patient managed with aspirin, heparin, and intravenous beta-blockers. He is recovering at home.

During April 14-18, one new case of generalized vaccinia and two cases of inadvertent inoculation (nonocular) were reported. During the vaccination program, no cases of eczema vaccinatum, erythema multiforme major, fatal vaccinia, postvaccinal encephalitis or encephalomyelitis, progressive vaccinia, or pyogenic infection of the vaccination site have been reported.

During April 14-18, in addition to the MI, nine other serious adverse events were reported, including one case of atypical chest pain and one case of anoxic encephalopathy. Also during this period, 42 other nonserious events were reported. Among the 369 vaccinees with reported other nonserious adverse events during January 24–April 18, the most common signs and symptoms were fever (n=78), rash (n=69), headache (n=56), and pain (n=56). All of these commonly reported events are consistent with mild expected reactions following receipt of smallpox vaccine. Some vaccinees reported multiple signs and symptoms.

During the current reporting period, information was received about one inadvertent contamination of a vaccine vial when a vaccinator was observed placing a needle from a vaccine back into the vial, then removing the needle from the vial and discarding it. The vial was then used to vaccinate additional persons, but new needles were used. The initial vaccine was tested for hepatitis B virus, hepatitis C virus, and human immunodeficiency virus; all tests were negative. Investigation is ongoing for evidence of any complications from this event.

During this reporting period, no vaccinia immune globulin was released for civilian vaccinees. No cases of vaccine transmission from civilian vaccinees to their contacts have been reported during the vaccination program. A total of 14 cases of transmission from military personnel to civilian contacts have been reported. Surveillance for adverse events during the civilian and military smallpox vaccination programs is ongoing; regular surveillance reports will be published in MMWR.

CDC Editorial Note: This report highlights the need to ensure proper infection-control procedures to avoid contamination of multidose vials. A recent supplement to the Advisory Committee on Immunization Practices (ACIP) recommendations for using smallpox vaccine states that the needle should not be reinserted into the vaccine vial.1 CDC’s Smallpox Fact Sheet (http://www.bt.cdc.gov/agent/smallpox/vaccination-vaccine-method.asp) states that the same needle should never be dipped into the vaccine vial more than once to avoid contamination of the vaccine vial.4 Immediately after use, each presterilized needle should be disposed of in a biohazard waste container for sharp objects. Potentially contaminated vials should be discarded. Vaccinees who receive potentially contaminated vaccine should be offered follow-up testing for infectious diseases of concern, if possible, based on knowledge of test results from the initial vaccinee. Incidents of potentially inappropriate administration of smallpox vaccine should be reported to VAERS at http://www.vaers.org.

This report includes cases reported as of April 18 that are either under investigation or have a reported final diagnosis. Because of ongoing discus-
Breastfeeding at any age or duration is associated with reduced rates of obesity and chronic diseases among children and is recommended in the 2000 American Academy of Pediatrics (AAP) guidelines on breastfeeding. In 2000, the AAP guidelines were revised to recommend exclusive breastfeeding for the first 6 months of life, but the evidence supporting this recommendation remains uncertain. The purpose of this study was to update the evidence on the benefits of breastfeeding and the optimal duration of breastfeeding, and to make recommendations for future research.

Methods

A systematic review of the literature was conducted using PubMed, Embase, and the Cochrane Library. The search included articles published in English from January 1, 2000, to February 28, 2009. The primary outcome was the association between breastfeeding and body mass index (BMI) in childhood and adolescence. The secondary outcomes were the associations between breastfeeding and chronic diseases in adulthood.

Results

The search identified 479 articles, of which 40 were included in the final analysis. Exclusive breastfeeding for the first 6 months of life was associated with a lower risk of obesity in childhood and adolescence. The association was stronger for breastfed exclusively for 4 to 6 months compared to breastfed exclusively for 0 to 2 months. The association between breastfeeding and chronic diseases in adulthood was weaker and more uncertain.

Conclusion

Breastfeeding is associated with reduced rates of obesity and chronic diseases among children. Exclusive breastfeeding for the first 6 months of life is recommended. Future research is needed to clarify the optimal duration of breastfeeding and to confirm the associations between breastfeeding and chronic diseases in adulthood.