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What is smallpox?

Smallpox was a serious, contagious, and sometimes deadly disease caused by the variola virus. Smallpox outbreaks occurred for thousands of years, but the disease was eliminated from the world after a successful vaccination campaign. People with smallpox had a fever and a distinctive skin rash. Although most people with smallpox recovered, about three out of every ten people with the disease died.

Who gets smallpox?

The last case of smallpox in the United States was in 1949. The last natural case in the world occurred in Somalia in 1977. The World Health Assembly declared smallpox eradicated in 1980.

Except for laboratory stockpiles, the variola virus that causes smallpox has been eliminated. Because of concern that the variola virus might be used as an agent of bioterrorism, even one case of confirmed smallpox would constitute an international public health emergency.

How is smallpox spread?

Before smallpox was eradicated, it was mainly spread by direct and fairly prolonged face-to-face contact between people. The virus can spread through materials or objects contaminated by smallpox scabs such as clothing and bedding. Smallpox patients are contagious from the time they develop sores in their throat or mouth until their last scab falls off.

What are the symptoms of smallpox?

A person with smallpox goes through several stages as the disease progresses. Each stage has its own signs and symptoms. The first symptoms include high fever, malaise (not feeling well), head and body aches, and sometimes vomiting. Once symptoms develop, people are usually too sick to carry on their normal activities. Two to four days after the first symptoms, a rash emerges. The rash begins on the tongue and in the mouth, spreads to the face, to the arms and legs (including hands and feet), and to the rest of the body within 24 hours. The rash first looks like raised bumps that then fill with a thick fluid and often have a dent in the center. Within five to ten days, the bumps become sharply raised, round, firm, and filled with pus (called pustules). Within two weeks, the pustules form a crust and become scabs. During the third week of the rash, the scabs fall off, leaving behind pitted scars. A person with smallpox is no longer contagious after all scabs have fallen off.

How soon after exposure do symptoms appear?

Symptoms can appear anywhere from 7-19 days after exposure but usually appear within 10-14 days.

How is smallpox diagnosed?

Smallpox is suspected based on the patient's clinical signs and symptoms. The disease can be definitively diagnosed by laboratory testing of blood or lesions. The diagnosis of smallpox is made in specialized laboratories, where safety measures are put into place to protect the laboratory workers.

What is the treatment for smallpox?

While some antiviral drugs may help treat smallpox disease, there is no treatment for smallpox that has been tested in people who are sick with the disease and proven effective.

Do people who have been in contact with someone with smallpox need to be tested and treated?

Contacts of individuals with smallpox should receive smallpox vaccine. Vaccination within three days after exposure might prevent or significantly lessen the severity of smallpox symptoms in most people. Vaccination within four to seven days of exposure might give some protection from the disease and lessen the severity of disease. Vaccination will not prevent smallpox in patients who already have a rash. Contacts who develop smallpox symptoms should be evaluated by a healthcare provider immediately and tested for smallpox.

How can smallpox be prevented?

There are vaccines to protect people from smallpox. Currently, smallpox vaccines are not recommended for the general public because smallpox has been eradicated. If there were a smallpox outbreak, health officials would use smallpox vaccines to control it.

Could smallpox be used for bioterrorism?

Although smallpox has been eradicated, it is possible that variola virus could be used in a biological attack. If there were a smallpox outbreak, health officials would use smallpox vaccines to control it.

How can I get more information about smallpox?

- If you have concerns about smallpox, contact a healthcare provider.
- Contact your local health department. You can find your local health department at vdh.virginia.gov/health-department-locator/.
- Visit the CDC page on smallpox at cdc.gov/smallpox/vaccines/ for more information.

Information for Health Professionals

[Smallpox: Overview for Health Care Providers](#) (Updated August 2023)

Two page summary of: Organism, Reporting, Infectious Dose, Occurrence, Natural Reservoir, Route

of Infection, Communicability, Case-fatality Rate, Risk Factors, Incubation Period, Clinical Manifestations, Differential Diagnosis, Laboratory Tests/Sample Collection, Treatment, Vaccine

[Vaccinia: Overview for Health Care Providers](#) (Updated June 2023)

Two page summary of: Organism, Transmission, Communicability, Risk Factors, Pregnancy

Information for Smallpox Vaccine

[Smallpox Vaccine Fact Sheet](#)

[CDC Smallpox Vaccine Basics](#)

[Presentation: Overview of Smallpox Vaccination](#)

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