

FACT SHEET

SMALLPOX (VARIOLA)

Description of Agent: Smallpox is an infection caused by Variola virus, a member of the chordopoxvirus family. Naturally occurring smallpox has been eradicated from the globe, with the last naturally occurring case occurring in Somalia in 1977. Repositories of virus are known to exist in only two laboratories worldwide. Monkeypox, Cowpox, and Vaccinia are closely-related viruses which might lend themselves to genetic manipulation and the subsequent production of smallpox-like disease.

Signs and Symptoms: The incubation period of smallpox is about 12 days. Clinical manifestations begin acutely involving malaise, fevers, rigours, vomiting, headache, and backache. After 2-4 days, skin lesions appear and progress to pustules starting in the centre of the body and spreading out. They scab in 1-2 weeks. In unvaccinated individuals, the classical form of the disease, is fatal in approximately 30% of cases. It is extremely contagious.

Diagnosis: In its full-blown form as typically seen in unimmunised individuals, smallpox is readily diagnosed on clinical grounds. The virus can be grown in culture.

Treatment: Supportive care is the mainstay of smallpox therapy. No specific antiviral therapy exists. Limited amounts of a licensed, live vaccine is held by the CDC in the US. Given the eradication of smallpox, vaccine would only be indicated in laboratory settings or where biological warfare was a distinct possibility. Vaccination is probably protective for at least 3 years. Exposed persons may be managed with prompt vaccination.

Decontamination: Given the extreme public health implications of smallpox reintroduction,

patients should be placed in strict isolation pending review by national health authorities. All material used in patient care or in contact with smallpox patients should be autoclaved, boiled, or burned.

Outbreak Control: Smallpox has considerable potential for person-to-person spread. Thus, all contacts of infectious cases should be quarantined for 16-17 days following exposure, and given prophylaxis as indicated. In addition patients should be isolated from air supply systems that deliver air to other areas of a hospital to limit airborne spread of particles. Animals are not susceptible to smallpox. ☛