Monkeypox

Section 1:
ABOUT THE DISEASE

A. Etiologic Agent

Monkeypox is a zoonotic disease caused by the monkeypox virus of the family Orthopoxviridae. This genus also includes variola virus (smallpox), vaccinia virus (the virus in the smallpox vaccine), and cowpox. The disease is called monkeypox because the agent was first discovered in laboratory monkeys in 1958, but the natural hosts of the virus are rodents.

Note: Variola virus is covered in detail in the “Smallpox” chapter of this manual.

B. Clinical Description

The symptoms of monkeypox are similar to human smallpox, although they are milder. They include fever, headache, muscle aches, swollen lymph nodes, and fatigue. A rash typically develops within three days of the onset of fever. The rash typically becomes vesiculopustular (blisters with clear, progressing to cloudy, contents). The rash usually starts on the face, but may begin on other body parts. The raised bumps of the rash go through stages, much like the smallpox rash, before becoming crusted, scabbing, and falling off. The duration of illness ranges from 2–4 weeks.

C. Vectors and Reservoirs

Recent evidence suggests that African squirrels may be the natural reservoir for monkeypox, but other rodents including Gambian rats, mice, and the elephant shrew, and mammals including rabbits, monkeys, and pigs, can be carriers.

D. Modes of Transmission

Monkeypox is transmitted through direct contact with infected animals, including a bite from the animal as well as contact with the animal’s blood, body fluids, or rash. Evidence exists for transmission through contaminated objects such as bedding or clothing. Person-to-person transmission also occurs, primarily through large respiratory droplets spread during periods of prolonged face-to-face contact. While airborne transmission has never been documented, it is theoretically possible using the smallpox model, and thus, cannot be excluded.

E. Incubation Period

The incubation period for monkeypox ranges from 10–14 days, but is usually 12 days.

F. Period of Communicability or Infectious Period

The communicable period for monkeypox generally lasts about three weeks, or from the time of the development of the first lesion to the disappearance of all scabs.

G. Epidemiology

Monkeypox is rare and occurs mostly in central and western Africa, with fatality rates of up to 10%, primarily in children. Monkeypox was first reported in humans in 1970. One factor behind the spread of human monkeypox infection is the discontinuation of smallpox vaccination in Africa in the 1980s, as the vaccine provided protection against monkeypox. An outbreak of monkeypox, which occurred in June of 2003 in the Midwestern U.S., has focused recent attention on the disease. These cases are believed to be the first monkeypox cases ever to occur in the Western Hemisphere. Infections were acquired after close contact with pet prairie dogs that were infected with the monkeypox virus through close contact with animals imported from Africa.