CLINICAL FORMS OF ANTHRAX

Editorial Note:

The findings of the Oct. 19, 2001 *MMWR* indicate that four confirmed cases of anthrax have resulted from intentional delivery of *B. anthracis* spores through mailed letters or packages. These are the first confirmed cases of anthrax associated with intentional exposure in the United States and represent a new public health threat.

Anthrax is an acute infectious disease caused by the spore-forming bacterium *B. anthracis.* It occurs most frequently as a disease of herbivores (e.g., cattle, goats, or sheep) that acquire spores from direct contact with contaminated soil. Human-to-human transmission has not been documented.

If suspected, immediately notify state public health staff.

The following clinical descriptions of anthrax are based on experience in adults. The clinical presentation of anthrax in infants is not well defined.

INHALATIONAL

Inhalational anthrax begins with a brief prodrome resembling a viral respiratory illness followed by development of hypoxia and dyspnea, with radiographic evidence of mediastinal widening. Inhalational anthrax is the most lethal form of anthrax and results from inspiration of 8,000–50,000 spores of Bacillus anthracis. The incubation period of inhalational anthrax among humans typically ranges from 1–7 days but may be possibly up to 60 days. Host factors, dose of exposure, and chemoprophylaxis may affect the duration of the incubation period. Initial symptoms include mild fever, muscle aches, and malaise and may progress to respiratory failure and shock; meningitis frequently develops.

Case-fatality estimates for inhalational anthrax are extremely high, even with all possible supportive care including appropriate antibiotics.

CUTANEOUS

Cutaneous anthrax is characterized by a skin lesion evolving from a papule, through a vesicular stage, to a depressed black eschar. The incubation period ranges from 1–12 days. The lesion is usually painless, but patients also may have fever, malaise, headache, and regional lymphadenopathy. The case fatality rate for cutaneous anthrax is 20% without, and <1% with, antibiotic treatment.

GASTROINTESTINAL

Gastrointestinal anthrax is characterized by severe abdominal pain followed by fever and signs of septicemia. This form of anthrax usually follows after eating raw or undercooked contaminated meat and can have an incubation period of 1–7 days. An oropharyngeal and an abdominal form of the disease have been described. Involvement of the pharynx is usually characterized by lesions at the base of the tongue, dysphagia, fever, and regional lymphadenopathy. Lower bowel inflammation typically causes nausea, loss of appetite, and fever followed by abdominal pain, hematemesis, and bloody diarrhea. The case-fatality rate is estimated to be 25%–60%. The effect of early antibiotic treatment on the case-fatality rate is not established.

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