Anthrax

Key Points:

- Infectious disease caused by the bacterium *Bacillus Anthracis*. Exposure in a terrorist incident is expected to be via aerosolized spores or spores in powder form.
- May commonly infect skin (cutaneous anthrax), lungs (pulmonary anthrax), or GI tract (gastrointestinal anthrax) depending on the nature of the exposure.

Signs/Symptoms: Immediately after exposure, patients will not have symptoms, but may require decontamination and/or antibiotic prophylaxis. (see below)

- Pulmonary Anthrax: Incubation is typically 4-5 days, but may range from 1 up to 60 days. Fever, malaise, fatigue, cough, vomiting, and chest discomfort are followed by respiratory distress with dyspnea, diaphoresis, stridor, and cyanosis. Shock and death occur within 36 hours of severe symptoms. Elevation of AST/ALT may also occur. Chest X-ray may show mediastinal widening, pleural effusion or infiltrates. **Not spread person to person.**
- Cutaneous Anthrax: Incubation period of up to 12 days. Typically forms a painless, pruritic papule which enlarges and develops into a painless ulcer with black eschar. Fever and lymphadenopathy are common. **May spread from skin to skin contact.**
- Gastrointestinal Anthrax: Incubation period of up to 7 days. Typical symptoms include nausea, vomiting, abdominal pain, fever, bloody diarrhea, and possible ascites.
- Oropharyngeal Anthrax: Incubation period of up to 7 days. Fever, cervical lymphadenopathy, pharyngitis, and oral ulcerations and eschars may occur.

Decontamination:

- **Negative pressure and isolation are not required.**
- **Health care workers should use standard body fluid precautions and PPE.**
- After an invasive procedure or autopsy, disinfect instruments and rooms with a sporicidal agent (0.5% sodium hypochlorite)
- Recent Exposures: Remove and bag all clothing and jewelry. Wash all exposed skin with soap and warm water.
- Distant Exposures: (i.e. symptomatic patients) will likely not require any specific decontamination.

Diagnosis:

- Physical findings maybe non-specific in early pulmonary anthrax.
- Symptomatic Patients**:** Obtain blood cultures and Xray. May also detect in sputum, skin vesicle fluid, ascitic fluid, and CSF.
- Asymptomatic Patients**:** Sputum gram stain and culture. No further testing necessary.

Treatment:

- Prophylaxis**:** After consultation with the Minnesota Department of Health treatment is one of the following for 60 days.
  - Ciprofloxacin 15mg/kg up to 500mg PO BID (adults, children,and pregnant women)
  - Amoxicillin 40mg/kg up to 500mg PO TID
  - Doxycycline 100 mg PO BID (avoid in children <8 years and pregnant women)
- Treatment:
  - Hospitalized Patients**:** Two drug therapy is recommended.
    - Ciprofloxacin 10mg/kg up to 400mg IV q12 hours
    - Doxycycline 2.2mg/kg up to 100mg PO q12 hours
    - Other potential antibiotics include rifampin, vancomycin, clindamycin, imipenem
  - Non-Hospitalized Patients and follow-up for hospitalized patients (for total 60 days treatment):
    - Ciprofloxacin 15mg/kg up to 500mg PO BID
    - Doxycycline 2.2mg/kg up to 100mg PO BID

If a patient is suspected of having anthrax, or for more information contact Minnesota Department of Health at 1-877-676-5414 24/7 and see additional information at www.cdc.gov/bt.