



THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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nyc.gov/health

2006 Alert #4:

Inhalational Anthrax in a New York City Resident who works with Unprocessed Animal Hides

- Case appears to be isolated and naturally occurring due to exposure to raw, unprocessed animal hides.
- DOHMH is focusing our epidemiologic investigation on others who may have been exposed to these animal hides
- Request immediate reporting of any suspected cases of inhalational, cutaneous, gastrointestinal, or central nervous system anthrax
- Strongly recommend against prescribing prophylactic antibiotics in the absence of a credible anthrax exposure
- Updated epidemiologic and environmental information will be provided as soon as available

Please Distribute to All Clinical Staff in Primary Care, Infectious Diseases, Emergency Medicine, Dermatology, Laboratory Medicine and Infection Control Staff

February 22, 2006

Dear Healthcare Providers:

The New York City Department of Health and Mental Hygiene (NYC DOHMH) was notified on February 21, 2006 of a case of inhalational anthrax in a 44-year-old male resident of Manhattan who makes drums from unprocessed animal hides (cow and goat) in a storage space in downtown Brooklyn. He returned from a two-week trip to Africa on December 21st, where he bought raw animal hides. He last worked on animal raw hides on February 14th and 15th in this storage space. On February 16th while traveling in Pennsylvania, the patient collapsed and was taken to a nearby hospital where he reportedly presented with chills, rigors, and bilateral pleural effusions. His white count was normal and he was afebrile. Four out of four blood cultures grew gram positive rods within 24 hours which were confirmed today by the Pennsylvania Department of Health and the Centers for Disease Control and Prevention as *Bacillus anthracis*. The patient is reportedly stable on appropriate antibiotic therapy. There are no signs of cutaneous or pharyngeal anthrax lesions.

As the patient works with unprocessed animal hides obtained both locally and from Africa, this appears to be a case of naturally occurring anthrax. However, a joint public health and law enforcement investigation of this case is ongoing, including an environmental assessment to determine whether there is any ongoing risk of exposure at the storage facility in Brooklyn. The DOHMH will be actively reaching out to all people who may have had direct exposure to these animal hides and if indicated, provide them with prophylactic antibiotics. There is no evidence of any risk to the general public.

The symptoms of inhalational anthrax may be similar to other forms of pneumonia on presentation. **Currently, the disease should be suspected in any patient who presents with a suggestive clinical presentation (see below) and reports working directly with raw or unprocessed animal hides, or other known risk exposures for anthrax. Please call DOHMH immediately regarding any suspected cases.**

Inhalational Anthrax: usually presents as an acute hemorrhagic mediastinitis with illness occurring within 1 to 7 days of exposure (may be as long as 60 days). Typically it is a biphasic illness:

- Initial phase is characterized by flu-like symptoms: mild, non-specific respiratory illness, malaise, fatigue, myalgia, low-grade fever, non-productive cough, mild chest discomfort, ronchi may be heard on exam, but otherwise exam may be normal
- Acute phase is characterized by: acute severe respiratory distress, dyspnea, cyanosis, stridor and profuse diaphoresis, subcutaneous edema of chest and neck, markedly elevated temperature, pulse, and respiratory rate. Exam may reveal moist crepitant rales. Chest x-ray findings: mediastinal widening in an otherwise healthy person is a pathognomonic sign; pleural effusion may be present; evidence of pneumonia is often lacking.

Cutaneous Anthrax: usually begins as a small papule, enlarges and progresses to a vesicle or bulla in 1 to 2 days. These vesicles may become hemorrhagic, with satellite vesicles. The lesion then ulcerates and forms a black eschar (necrotic ulcer) in 3 to 7 days. The lesion is usually painless and the tissue surrounding the skin lesions is often erythematous, and may have varying degrees of edema (brawny, gelatinous, non-pitting edema). Patients may have fever, malaise, headache, and regional lymphadenopathy

We ask that practitioners report all suspect cases of anthrax infections by calling the following numbers:

During business hours: 212-788-9830
After hours, contact the Poison Control Center: 212-764-7667 or 1-800-222-1222

Important Information on anthrax for clinical microbiologists:

Clinical microbiology laboratories should take care not to regard all isolates of *Bacillus species* as contaminants, especially if isolated from sterile sites {blood, cerebrospinal fluid} and/or multiple cultures are positive from the same patient. **The DOHMH recommends that all sterile site *Bacillus* isolates be further evaluated, and if non-motile or non-hemolytic, and/or if the clinical syndrome is suggestive of anthrax, the isolates should be immediately referred to the DOHMH at the numbers listed above for further testing.**

Laboratory issues with respect to diagnosing *Bacillus anthracis* include:

- *Bacillus anthracis* can be isolated primarily from blood, sputum, CSF, vesicular fluid, a swab of exudate from the eschar, a tissue biopsy and stool (if gastrointestinal anthrax).
- Clinical laboratory specimens should be handled in Biosafety Level 2 facilities.
- Confirmatory diagnostic testing is available through the NYC Public Health Laboratory; and can be arranged by calling the DOHMH. Positive specimens will be sent to the CDC for additional testing.

Presumptive Microbiologic Identification Key for *Bacillus anthracis*

- Gram-positive, spore-forming rod
- Non-hemolytic
- Non-motile
- Encapsulated (requires India ink to visualize the capsule)

Avoid Prescribing Unnecessary Antibiotics:

The DOHMH strongly urges physicians NOT to prescribe prophylactic antibiotics for the general public. This appears to be an isolated case and there has been no evidence to date of more widespread dissemination. We are currently working to determine the extent of potential exposure at the storage facility, to identify others who may have been exposed and potentially at risk and to determine whether they need post-exposure prophylaxis.

At this time, DOHMH is actively identifying and recommending prophylactic antibiotics to only those persons with a known exposure to the raw animal hides associated with the case-patient. Clinicians evaluating patients who think that they may have been exposed to anthrax should assess the individual risk of exposure and contact the Health Department at the numbers below.

Use of prophylactic antibiotics is not without risk. Inappropriate use of antibiotics will lead to increased resistance among microorganisms causing common bacterial infections and may result in serious adverse effects (e.g., *Clostridium difficile* colitis, allergic reactions, interactions with other medications). Stockpiling of antibiotics could lead to inappropriate patient decisions to self-medicate, incomplete courses of antibiotics that might select for resistant organisms, the eventual use of expired medications, and to the depletion of national supplies for medically indicated uses.

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As always, we appreciate our ongoing partnership with New York City healthcare providers in reporting and investigating unusual disease manifestations or clusters. We will be providing updated information as soon as it is available.

Sincerely,

Marci Layton MD

Marci Layton, MD, Assistant Commissioner
Bureau of Communicable Disease