B114 The Oxford Incident: Anthrax in Connecticut

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The goal of this presentation is to review the procedures and outcomes of a coordinated approach to the investigation of a confirmed case of inhalation anthrax.

In November 2001, an elderly female was presented at the local community hospital. She had a high fever and difficulty breathing. Since she had a history of COPD (Chronic Obstructive Pulmonary Disease), standard treatments were given and X-Rays taken. Attending physicians took additional samples when her condition worsened. The decision that led doctors to investigate was based partly on the woman's medical status and partly on the raised awareness after the Florida and New York anthrax cases. Gram-negative rods were found, confirmed as inhalation anthrax by Connecticut Public Health and the CDC (Centers for Disease Control). Unfortunately, this woman died as a result of her anthrax infection. How could an elderly woman, who usually only left her old farm once a week to attend church services, have contracted anthrax? The subsequent investigation and its aftermath required the interaction of several community, state, and federal agencies. Coordination with the media was also necessary to prevent panic among the residents of the state and to provide appropriate information to the citizens.

Because of the limited scope of the victim's travel, the potential sources of infection were very limited. The normal incubation time of anthrax is approximately 60 days. This information and the routine followed by the woman provided additional support for the theory that the source of the anthrax was mail that had passed through New Jersey, as with the other anthrax cases in the Northeast. The CDC, FBI, State Police Emergency Services, Division of Scientific Services, and the Deptartment of Public Health began a coordinated search of the decedent's home. A thorough search of the home showed no areas or materials positive with the "screening test" for anthrax. However, no mail from the appropriate time for infection was found in her home. Mail that tested positive with the antibody test was found at another location in a nearby town, lending further support to the theory for disease transmission. Although the particular source of the anthrax in the decedent's home was not identified, spores were found at a Connecticut postal distribution center. This information, combined with the other case histories, led investigators to hypothesize that a small number of spores were probably on a piece of mail at the decedent's house. The relatively small number of spores that were likely inhaled had previously not been thought to be sufficient to cause infection.

The absolute identification of anthrax in the state also resulted in a large amount of suspect mail and other materials being submitted to Public Health and the forensic laboratory. The forensic laboratory worked closely with that DPH to train personnel and develop chain of custody procedures for physical evidence. When these myriad submissions were found to be negative for anthrax, samples were forwarded to the DSS Toxicology Laboratory and the Forensic Science Laboratory for further instrumental analysis and substance identification. In addition, tests for trace materials, fingerprints, and DNA were conducted on many of these items in efforts to identify a potential source of the physical evidence.

Well-coordinated scene efforts and outreach to community leaders and health officials were effective in determining that no major source of anthrax was in the area. Quick response and sequential laboratory testing allowed the laboratories to reassure a concerned public. Forensic laboratory testing also provided valuable information to support legal action when false threats against state facilities and officials were made.

Anthrax, Bioterrorism, Crime Scene Investigation

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