

ARCHIVE NEWS RELEASE

November 12, 2001

Anthrax Findings Presented By NIH Researcher

Bethesda, Maryland — An NIH Clinical Center researcher, in collaboration with physicians in Maryland and Washington DC, has published a detailed assessment of the fatal cases of inhalational anthrax that occurred in two District of Columbia postal workers. The findings, which will be published in the Nov. 28 issue of the Journal of the American Medical Association, have been posted ahead of publication at <http://www.jama.com> because of their public health importance.

"These results are presented in an effort to make doctors aware of what to look for when diagnosing suspected anthrax patients," said Dr. Luciana Borio, lead author of the paper. Borio, who is fellow in the Critical Care Medicine Department of the NIH Clinical Center and researcher at the Johns Hopkins Center for Civilian Biodefense Studies, published the findings in collaboration with physicians at the Greater Southeast and Southern Maryland Hospitals, and the DC and Maryland Medical Examiners Office. An accompanying editorial by Anthony S. Fauci, MD, Director of the National Institute of Allergy and Infectious Diseases (NIAID) and H. Clifford Lane, MD, NIAID Clinical Director, is also posted on the JAMA website.

Because the symptoms in these two cases were nonspecific, they were initially misidentified as flu or other common infections. However, a later review of the laboratory data showed pathology different from common infections, according to Borio. Both patients' blood tests showed increased white blood-cell counts and concentrated red blood-cell counts. Neither finding would normally be seen in flu patients, said Borio. In addition, blood cultures quickly showed long chains of the distinctive anthrax bacilli.

"Laboratory tests should be ordered if there is any suspicion of anthrax," Borio stressed. "Both cases show the importance of testing by microbiology laboratories with staff experienced in growing and identifying these unusual organisms."

Both postal workers also developed fluid build up in the chest and infiltrates in the lungs that resembled pneumonia on radiologic images. "It would have been easy to misdiagnose these cases as pneumonia, and thus rule out anthrax, if doctors had relied on the x-rays alone," said Borio.

"It's essential that doctors are familiar with how anthrax presents in order to distinguish it from more common infections," said Borio. "Both patients were sick enough to seek medical help," she said, "but neither had symptoms that would normally require further tests or hospitalization, so they were initially sent home."

The two anthrax victims were among five postal workers who worked at the Brentwood postal facility in Washington who contracted anthrax in October. One had gastrointestinal symptoms, including nausea, vomiting and stomach pain. The other had flu-like symptoms, including muscle ache, discomfort and fatigue. Both developed chest pain and breathing difficulty, eventually requiring a respirator.

Doctors made a working diagnosis of anthrax after the media reported two other postal workers from the same facility were diagnosed with anthrax. Although both were treated with antibiotics, both died within 24 hours of hospitalization.

"Without warning that anthrax was present in the community, doctors would be unlikely to consider such a rare condition," said Dr. Henry Masur, chief of critical care medicine at the NIH Clinical Center. "The analysis and prompt publication of these findings will help doctors avoid such tragic consequences in the future."

Other authors contributing to this study were Dennis Frank, MD; Venkat Mani, MD; Carlos Chiriboga, MD; Michael Pollanen, MD, PhD; Mary Ripple, MD; Syed Ali, MD; Constance DiAngelo, MD, MS; Jacqueline Lee, MD; Jonathan Arden, MD; Jack Titus, MD; David Fowler, MD; Tara O'Toole, MD, MPH; John Bartlett, MD; and Thomas Inglesby, MD.