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Abstract from the Literature

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Jortani SA, Snyder JW, Valdes JR. The role of the clinical laboratory in managing chemical or biological terrorism. CHn Chern 2000 Dec; 46(12): 1883-93.

Background: Domestic and international acts of terrorism using chemicals and pathogens as weapons have recently attracted much attention because of several hoaxes and real incidents. Clinical laboratories, especially those affiliated with major trauma centers, should be prepared to respond rapidly by providing diagnostic tests for the detection and identification of specific agents so that specific therapy and victim management can be initiated in a timely manner. As first-line responders, clinical laboratory personnel should become familiar with the various chemical or biological agents and be active participants in their local defence programs.

Approach: We review the selected agents previously considered or used in chemical and biological warfare, outline their poisonous and pathogenic effects, describe techniques used in their identification, address some of the logistical and technical difficulties in maintaining such tests in clinical laboratories, and comment on some of the analytical issues, such as specimen handling and personal protective equipment.

Content: The chemical agents discussed include nerve, blistering, and pulmonary agents and cyanides. Biological agents, including anthrax and smallpox, are also discussed as examples for organisms with potential use in bioterrorism. Available therapies for each agent are outlined to assist clinical laboratory personnel in making intelligent decisions regarding implementation of diagnostic tests as a part of a comprehensive defense program.

Summary: As the civilian medical community prepares for biological and chemical terrorist attacks, improvement in the capabilities of clinical laboratories is essential in supporting counterterrorism programs designed to respond to such attacks. Accurate assessment of resources in clinical laboratories is important because it will provide local authorities with an alternative resource for immediate diagnostic analysis. It is, therefore, recommended that clinical laboratories identify their current resources and the extent of support they provide, and inform the authorities of their state of readiness.

Cole LA. Bioterrorism threats: learning from inappropriate responses. J Public Health Manag Pract 2000 Jul;6(4):8-18.

Between April 1997 and June 1999, some 200 mailed or telephoned bioterrorism threats were received at a variety of locations. Usually claiming that anthrax had been released, the threats all proved to be hoaxes. In many instances, local emergency responders treated the more than 13,000 potential victims inappropriately, in particular requiring victims to strip and undergo decontamination with bleach solutions. Narratives of several incidents indicated that many victims were distressed and embarrassed by their treatment. Their experiences underscore the need for improved local response actions and the formulation of a uniform response protocol for public health agencies.

Cieslak TJ, Eitzen EM Jr. Bioterrorism: agents of concern. J Public Health Manag Pract 2000 Ju1;6(4):19-29.

The intentional dispersal of biological agents by terrorists is a potential problem that increasingly concerns the intelligence, law enforcement, medical, and public health communities. Terrorists might choose biological agents over conventional and chemical weapons for multiple reasons, although it is difficult to predict, with certainty, which biological agents might prove attractive to terrorists. One can more confidently, however, derive a list of those few agents which, if used, would be of greatest public health consequence. It is these agents which will require the most robust countermeasures. We discuss the derivation of this shortlist of agents and the specific diseases involved.

***Comment:** Three interesting papers with COL Cieslak's being the most authoritative. It is refreshing to see that inappropriate response to anthrax hoaxes, and the requirement for diagnostic laboratories to be involved in any definitive response to such an attack, are now being addressed. For far too long, this area has relied on speculation and not science.*