Novel Clostridium botulinum Toxin and Dual Use Research of Concern Issues

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(See the major articles by Barash and Arnon on pages 183–91 and Dover et al on pages 192–202, and the editorial commentaries by Popoff on pages 168–9 and Relman on pages 170–2.)

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In this issue of The Journal of Infectious Diseases, Stephen Arnon and colleagues report on the discovery and partial molecular characterization of a novel Clostridium botulinum toxin, the first to be recognized in more than 40 years. The 2 articles describing these findings are accompanied by 2 editorials, one by Popoff describing the historical context and scientific importance of the observations, and the other by Relman discussing the issues related to dual use research of concern (DURC) raised by these articles.

As mentioned in a previous editorial commentary accompanying an article that raised DURC issues [1, 2], journal decisions on what information to publish and what to withhold are complicated, and must measure the public’s right to know and the free flow of scientific information with national and international security needs. The decision was made to publish the current reports because they represent outstanding science and are of great importance to the fields of infectious diseases and public health. The decision to withhold certain genetic information was more complex. It is general JID policy that gene nucleotide sequences must be submitted to the International Nucleotide Sequence Databases and that the accession numbers must appear in the final revision and published version of the manuscript. However, in this case, we made an exception. Because no antitoxins as yet have been developed to counteract the novel C. botulinum toxin, the authors had detailed consultations with representatives from numerous appropriate US government agencies (see Notes), as well as the JID editors, and received approval to publish both manuscripts, while withholding the key gene sequences until appropriate countermeasures were developed.

The Journal of Infectious Diseases will continue to scrutinize each submitted manuscript for possible DURC issues. We have implemented a policy asking reviewers to help us identify manuscripts that might raise such concerns. Each situation will be handled in a case-by-case manner, and we will continue to closely monitor this ever-evolving field.

Notes
A committee representing various branches of the US government reviewed and approved submission of the manuscripts. Represented on this committee were the Drug Development Section, Division of Microbiology and Infectious Diseases, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH); the Enteric and Hepatic Diseases Branch, NIAID, NIH; the Bacteriology and Mycology Branch, NIAID, NIH; the Office of Biotechnology Activities, Office of Science Policy, NIH; the National Counterproliferation Center, Office of the Director of National Intelligence; the Office of the Assistant Secretary for Preparedness and Response, Department of Health and Human Services (DHHS); the Biomedical Advanced Research and Development Authority, Office of the Assistant Secretary for Preparedness and Response, DHHS; the Threat Characterization and Attribution Branch, Chemical and Biological Defense Division, Science and Technology Directorate, Department of Homeland Security; the US Army Medical Research Institute of Infectious Diseases; the Division of Select Agents and Toxins, Office of Public Health Preparedness and Response, Centers for Disease Control and Prevention, DHHS; and the Biological Countermeasures Unit, Federal Bureau of Investigation Weapons of Mass Destruction Directorate, Department of Justice.

Potential conflicts of interest. Both authors: No reported conflicts.

Both authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

References