

Study finds multidrug-resistant gram-negative bacteria high in long-term care

April 10 2009

The prevalence of a certain form of drug-resistant bacteria, called multidrug-resistant gram-negative (MDRGN) organisms, far surpassed that of two other common antimicrobial-resistant infections in long-term care facilities, according to a study conducted by researchers at Hebrew SeniorLife's Institute for Aging Research.

Residents at long-term care facilities are one of the main reservoirs of antimicrobial-resistant bacteria. Epidemiological studies have focused primarily on two common antimicrobial-resistant organisms—methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE).

"Recently, it has become apparent that multidrug resistance among gram-negative bacteria is becoming an even greater problem in these facilities, with nearly half of long-term care facility residents harboring multidrug-resistant gram-negative bacteria," write the researchers, led by IFAR's Erin O'Fallon, M.D., M.P.H., in the January issue of the *Journal of Gerontology: Medical Sciences*.

MDRGN [infection](#) can lead to toxins in the bloodstream that cause [inflammation](#) and destroy healthy tissue. Left untreated, these infections can be fatal.

More than 80 percent of the MDRGN cases in the study were resistant to commonly prescribed antimicrobial medications, including ciprofloxacin, trimethoprim-sulfamethoxazole, and

amipicillin/sulbactam. By definition all of the identified MDRGN bacteria were resistant to at least three different classes of antimicrobial drugs, with one-third of them resistant to four.

These findings, says Dr. O'Fallon, a staff geriatrician at Hebrew Rehabilitation Center and a research fellow in medicine at Harvard Medical School, raise concerns about the therapeutic options available to physicians in treating long-term care residents with MDRGN. Hospitals and long-term care facilities have only recently begun to include MDRGN in their surveillance of antimicrobial-resistant [bacteria](#) and have extended requirements for contact precautions to MDRGN.

Using more than 1,660 clinical cultures (urine, blood and wound specimens) obtained from residents at a large, urban long-term care facility, the researchers found 180 cases of MDRGN compared to 104 cases of MRSA and 11 cases of VRE. Of further concern, they say, was the steady rise in MDRGN over the two-year study period, which increased from 7 percent the first year to 13 percent in the last year.

Dr. O'Fallon says that infections caused by MDRGN are associated with higher mortality rates, longer hospital stays, and increased costs compared with infections caused by gram-negative bacterial infections that can be treated effectively with antibiotics. Risk factors for MDRGN infection in the long-term care population include pressure ulcers, poor functional status, advanced dementia, and antimicrobial exposure.

Source: Hebrew SeniorLife Institute for Aging Research

Citation: Study finds multidrug-resistant gram-negative bacteria high in long-term care (2009, April 10) retrieved 10 April 2024 from <https://medicalxpress.com/news/2009-04-multidrug-resistant-gram-negative-bacteria-high-long-term.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.