Medical News

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Risk Factors for VRE Infection

Investigators at Cornell University Medical College in New York City conducted one of the largest case control studies to date to determine risk factors for vancomycin resistance and mortality in patients with *Enterococcus faecium* colonization or infection. The study was conducted by comparing 145 patients who had vancomycin-resistant *E faecium* (VREF) isolates (cases) to 145 patients with vancomycin-susceptible *E faecium* (VSEF) isolates (controls). The number of deaths per 100-person days of hospitalization after diagnosis did not differ significantly between VREF patients (1.2) and VSEF patients (0.8).

Multivariate analyses found that the duration of hospitalization (>7 days), intrahospital transfer between floors, use of antimicrobials (ie, vancomycin and third-generation cephalosporins), and duration of vancomycin use (>7 days) were independently associated with VREF infection or colonization. In addition, there was a significant association between hemodialysis and acquisition of VREF.

This study confirms earlier observations regarding VREF infection or colonization and identifies risk factors that may be used to develop strategies for prevention and control of this emerging nosocomial problem.

FROM: Tornieporth NG, Roberts RB, John J, et al. Risk factors associated with vancomycin-resistant *Enterococcus faecium* infection or colonization in 145 matched case patients and control patients. *Clin Infect Dis* 1996;23:767-772.

Reuse of Medical Devices

ECRI has developed a "Special Report on the Reuse of Single-Use Medical Devices: Making Informed Decisions." This report presents an objective assessment of reuse and offers decision-making support for healthcare providers, policy makers, and others investigating reuse as a cost-saving measure.

In the 1950s, plastic medical devices were introduced as an inexpensive alternative to durable reusable products. Because they could not withstand the rigors of steam sterilization, these plastic devices were considered disposable. Once introduced, the concept of single-use medical devices and their convenience swept through the medical-device industry. Many single-use devices can be costly, ranging from hundreds to thousands of dollars per device. Others, such as syringes, are less expensive, but are used in such large quantities that they have drawn attention as an opportunity for cost savings. Advances in the science of sterilization have made it possible to safely sterilize some single-use medical devices. However, the healthcare community continues to struggle with issues related to cost-effectiveness of reuse balanced against the potential impact on quality and safety of patient care.

Issues covered in this report include an analysis of evidence regarding safety of reuse, occupational safety and health risks, reuse protocols, economic analysis tools, analysis of clinical studies, information on outsourcing companies, and sample policies and procedures.

ECRI is a nonprofit health services research agency. For information about this report, contact ECRI, 5200 Butler Pike, Plymouth Meeting, PA 19462-1298; telephone 610-825-6000, or fax 610-834-1275.

FROM: ECRI. Press release: Reuse of single-use medical devices: does this cost cutting measure affect the quality of patient care? ECRI: Plymouth Meeting, PA. November 15, 1996.

New York City Outbreak Accounts for 25% of US Cases of MDR-TB

Many outbreaks of drug-resistant strains of *Mycobacterium tuberculosis* occurred in New York City, and several have involved one strain (referred to as strain W) predictably resistant to at least six, and usually seven, antituberculosis agents: isoniazid, rifampin, ethambutol hydrochloride, streptomycin sulfate, kanamycin sulfate, rifabutin, and, usually, ethionamide. Susceptibility to pyrazinamide, which was difficult to test, has been variable. These outbreaks largely have involved HIV-infected patients and healthcare workers. Mortality was 80% to 90% in the reported outbreaks, with death occurring a median of 1 to 4 weeks after onset of disease.

The New York City (NYC) Department of Health investigated every tuberculosis patient reported in New York City from January 1, 1990, to August 1, 1993, to determine the number who had disease caused by the W strain. Of the 357 patients who met the case definition and were found to be infected with the W strain, 267 had identical or nearly identical restriction fragment-length polymorphism (RFLP) analysis; isolates from the other 90 patients were not available.

Epidemiological linkages were identified for 70% of patients of whom 96% likely had nosocomially acquired disease at 11 hospitals. Survival was prolonged among patients who received medications to which their isolate was susceptible, especially capreomycin sulfate. Most patients had nosocomially acquired disease, were infected with HIV, and, unless promptly and appropriately treated, died rapidly. With appropriate directly observed therapy, especially combinations including an injectable medication, even severely immunocompromised patients had culture conversion and prolonged, tuberculosis-free survival.

The authors note that this was the most extensive and most highly resistant outbreak of multidrug-resistant tuberculosis reported to date. This outbreak accounted for nearly one fourth of the cases of multidrug-resistant tuberculosis in the United States during the 43-month period. Based on the number of days in the hospital, the estimated

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