

quences of vancomycin-resistant enterococci in liver transplant patients. *Transplantation* 2001;72:1032-1037.

VRE Colonization in Hemodialysis Patients

Vancomycin-resistant enterococci (VRE) are increasing in prevalence at many institutions and are reported often in dialysis patients. Tokars and coinvestigators from the CDC's Hospital Infections Program studied the prevalence of, and risk factors for, VRE at seven outpatient hemodialysis centers (three in Baltimore, Maryland, and four in Richmond, Virginia). Rectal or stool cultures were performed on consenting hemodialysis patients during December 1997 to April 1998. Repeat cultures were obtained from consenting patients during May to July 1998 (median, 120 days later). Clinical and laboratory data and functional status (1 to 10 scale: 1, normal function; 9, home attendant, not totally disabled; 10, disabled, living at home) were recorded.

Of 478 cultures performed, 20 (4.2%) were positive for VRE. Among the seven centers, the prevalence of VRE-positive cultures varied from 1.0% to 7.9%. Independently significant risk factors for a VRE-positive culture were a functional score of 9 to 10 (odds ratio, 6.9; $P < .001$), antimicrobial receipt within 90 days before culture (odds ratio, 6.1; $P < .001$), and a history of injection drug use (odds ratio, 5.4; $P = .004$).

The authors concluded that VRE-colonized patients were present at all seven participating centers, suggesting that careful infection control precautions should be used at all centers to limit transmission. In agreement with previous studies, VRE colonization was found more frequently in patients who had received antimicrobial agents recently, underscoring the importance of judicious antimicrobial use in limiting selection for this potential pathogen.

FROM: Tokars JI, Gehr T, Jarvis WR, Anderson J, Armistead N, Miller ER, et al. Vancomycin-resistant enterococci colonization in patients at seven hemodialysis centers. *Kidney Int* 2001;60:1511-1516.

Community-Onset *S aureus* Bacteremia

Morin and Hadler, from the Epidemiology Program, Connecticut Department of Public Health, conducted a study that retrospectively analyzed the magnitude and epidemiology of community-onset *Staphylococcus aureus* (COSA) infections and methicillin-resistant *S aureus* (MRSA) infections in four Connecticut metropolitan areas (population, 1.1 million). The study looked at hospital medical records of persons admitted with *S aureus* bacteremia in 1998. COSA was categorized as "healthcare associated," "with underlying medical condition," or "no underlying medical condition."

Overall, 48% of *S aureus* bacteremic infections were COSA (incidence, 17 cases/100,000 persons). Incidence increased with age and higher population density. In all,

62% of infections were healthcare associated; 85% of the remaining cases had underlying medical conditions. MRSA accounted for 16% of healthcare-associated cases and cases with underlying conditions, but no cases with no underlying conditions. COSA bacteremic infections are as common as those due to pneumococci. MRSA is a well-established cause of COSA among persons at high medical risk for *S aureus* infection.

FROM: Morin CA, Hadler JL. Population-based incidence and characteristics of community-onset *Staphylococcus aureus* infections with bacteremia in 4 metropolitan Connecticut areas, 1998. *J Infect Dis* 2001; 184:1029-1034.

Low-Temperature Hydrogen Peroxide Plasma Sterilization of Bronchoscopes

Bar and colleagues reported on a study to explore methods to prevent transmission of tuberculosis by bronchoscopes. Bronchoscopes were contaminated with *Mycobacterium tuberculosis* and decontaminated with a washer-disinfector (normal washing). Some were additionally disinfected with glutaraldehyde (intensive washing). Afterward, the bronchoscopes were sterilized using low-temperature hydrogen peroxide plasma sterilization.

After normal washing, 8 of 17 samples had positive results by culture, and 7 of 17 had positive results by nucleic acid amplification technique. After intensive washing, all samples had negative results by culture, and 10 of 25 had positive results by the nucleic acid amplification technique. After sterilization with low-temperature hydrogen peroxide plasma sterilization, all samples had negative results by culture and the nucleic acid amplification technique.

The authors concluded that washing of bronchoscopes, as performed normally, is not sufficient for decontamination of bronchoscopes. Additional disinfection is recommended. If the nucleic acid amplification technique is used for diagnostic procedures, sterilization by low-temperature hydrogen peroxide plasma sterilization is recommended to avoid false-positive results.

FROM: Bar W, Marquez De Bar G, Naumann A, Rusch-Gerdes S. Contamination of bronchoscopes with *Mycobacterium tuberculosis* and successful sterilization by low-temperature hydrogen peroxide plasma sterilization. *Am J Infect Control* 2001;29:306-311.

FDA Issues Draft Guidance on Blood-Donor Deferrals

In an effort to reduce the risk of the human variant of mad cow disease, known as Creutzfeldt Jakob disease, the FDA recently issued a 35-page final guidance entitled "Revised Preventive Measures to Reduce the Possible Risk of Transmission of Creutzfeldt-Jakob Disease (CJD) and Variant Creutzfeldt-Jakob Disease (vCJD) by Blood and Blood Products." It recommends deferral of donors who

have been diagnosed with vCJD or any other form of CJD; donors at increased risk for CJD (eg, those who have received a dura mater transplant or human pituitary-derived growth hormone); donors who have one or more blood relatives diagnosed with CJD; donors who have spent ≥ 3 months cumulatively in the United Kingdom between 1980 and 1996; donors who have spent ≥ 5 years cumulatively in France from 1980 to the present; certain donors who are former or current US military personnel, civilian military personnel, and their dependents; donors who received a transfusion of blood or blood components in the United Kingdom between 1980 and the present; donors who have injected bovine insulin since 1980, unless it can be confirmed that the product was not manufactured after 1980 from United Kingdom cattle; and donors of whole blood or blood components for transfusion and source leukocytes who have lived cumulatively for ≥ 5 years in Europe from 1980 until the present.

FROM: FDA. <http://www.fda.gov/cber/gdlns/cjdvcjd.pdf>.

Hygiene and Health: The Epidemiological Link

Larson and Aiello summarized recent healthcare literature to examine the epidemiological link between personal and household hygiene and the risk of infection. The researchers found 26 interventional and 24 correlational studies during the 20-year period from 1980 to 2000. On the basis of the literature, the following conclusions were reached. (1) The primary measures associated with reduced incidence of infection include availability of clean water supply, adequate disposal of waste (particularly feces), and hand hygiene. (2) Such interventions are useful primarily for infections spread by the fecal-oral route. (3) In developed countries, the effectiveness of measures such as hand and environmental hygiene has been demonstrated in settings such as schools and day-care centers. (4) In developed countries, the importance of cleanliness in the home environment has received little attention, and the role of the home environment in the spread of infection is unknown. (5) The effectiveness of additional efforts to improve cleanliness (eg, use of antimicrobial products and specific home cleaning regimens) beyond minimal standards has not been demonstrated.

FROM: Larson EL, Aiello AE. Hygiene and health: an epidemiologic link? *Am J Infect Control* 2001;29:232-238.

Mortality Higher Among Patients Admitted to Hospital on Weekends

The level of staffing in hospitals often is lower on weekends than on weekdays, despite a presumably consistent day-to-day burden of disease. It is uncertain whether in-hospital mortality rates among patients with serious conditions differ according to whether they are admitted on a weekend or on a weekday. Bell and Redelmeier analyzed all acute-care admissions from emergency departments in Ontario, Canada, between 1988 and 1997 (a total of 3,789,917 admissions).

The researchers compared in-hospital mortality among patients admitted on a weekend with that among patients admitted on a weekday for three pre-specified diseases: ruptured abdominal aortic aneurysm (5,454 admissions), acute epiglottitis (1,139), and pulmonary embolism (11,686); for three control diseases: myocardial infarction (160,220), intracerebral hemorrhage (10,987), and acute hip fracture (59,670); and for the 100 conditions that were the most common causes of death (accounting for 1,820,885 admissions). Results indicated that weekend admissions were associated with significantly higher in-hospital mortality rates than were weekday admissions among patients with ruptured abdominal aortic aneurysms (42% vs 36%, $P < .001$), acute epiglottitis (1.7% vs 0.3%, $P = 0.04$), and pulmonary embolism (13% vs 11%, $P = .009$). The differences in mortality persisted for all three diagnoses after adjustment for age, gender, and coexisting disorders. There were no significant differences in mortality between weekday and weekend admissions for the three control diagnoses. Weekend admissions also were associated with significantly higher mortality rates for 23 of the 100 leading causes of death and were not associated with significantly lower mortality rates for any of these conditions.

The authors concluded that patients with some serious medical conditions are more likely to die in the hospital if they are admitted on a weekend than if they are admitted on a weekday.

FROM: Bell CM, Redelmeier DA. Mortality among patients admitted to hospitals on weekends as compared with weekdays. *N Engl J Med* 2001;345:663-668.