

poultry slaughterers. No correlation was found between the results obtained in the laying-hens and those obtained in the other populations. The 27 gentamicin-resistant isolates all showed high-level resistance to gentamicin and two of these isolates, both *Enterococcus faecium*, were resistant to all antibiotics tested, except vancomycin. The 73 vancomycin-resistant enterococci (VRE) isolates from the five populations belonged to four different species and in all isolates the *vanA* gene cluster was detected by blot hybridization. The pulsed-field gel electrophoresis (PFGE) patterns of these VRE were quite heterogeneous, but *E. hirae* isolates with the same or a closely related PFGE pattern were isolated at two farms from the broiler farmer and from broilers.

Molecular characterization of *vanA*-containing transposons of these isolates showed that similar transposon types, predominantly found in poultry, were present. Moreover, similar *vanA* elements were found not only in isolates with the same PFGE pattern, but also in other VRE isolated from both humans and chickens.

The results of this study suggest transmission of resistance in enterococci from animals to humans. For VRE this might be clonal transmission of animal strains, but transposon transfer seems to occur more commonly.

FROM: van Den Bogaard AE, Willems R, London N, Top J, Stobberingh EE. Antibiotic resistance of faecal enterococci in poultry, poultry farmers and poultry slaughterers. *J Antimicrob Chemother* 2002;49:497-505.

Targeted Educational Program Reduces Catheter-Related Bloodstream Infections

Coopersmith and colleagues from the Washington University School of Medicine, St. Louis, reported the results of a study to determine whether an education initiative aimed at improving central venous catheter insertion and care could decrease the rate of primary bloodstream infections.

This was a preintervention and postintervention observational study conducted in an 18-bed surgical-burn-trauma intensive care unit (ICU) in an urban teaching hospital. A total of 4,283 patients were admitted to the ICU between January 1, 1998, and December 31, 2000. A program primarily directed toward registered nurses was developed by a multidisciplinary task force to highlight correct practice for central venous catheter insertion and maintenance. The program consisted of a 10-page self-study module on risk factors and practice modifications involved in catheter-related infections, as well as a verbal in-service at staff meetings. Each participant was required to take a pretest before taking the study module and an identical test after its completion. Fact sheets and posters reinforcing the information in the study module were also posted throughout the ICU.

Seventy-four primary bloodstream infections occurred in 6,874 catheter-days (10.8 per 1,000 catheter-days) in the 18 months before the intervention. After the implementation of the education module, the number of primary bloodstream infections fell to 26 in 7,044 catheter-

days (3.7 per 1,000 catheter-days), a decrease of 66% ($P < .0001$). The estimated cost savings secondary to the decreased infection rate for the 18 months after the intervention was between \$185,000 and \$2.808 million.

The authors concluded that a focused intervention primarily directed at the ICU nursing staff can lead to a dramatic decrease in the incidence of primary bloodstream infections. Educational programs may lead to a substantial decrease in cost, morbidity, and mortality attributable to central venous catheterization.

FROM: Coopersmith CM, Rebmann TL, Zack JE, et al. Effect of an education program on decreasing catheter-related bloodstream infections in the surgical intensive care unit. *Crit Care Med* 2002;30:59-64.

CDC Links Infections to Contaminated Allografts

According to the Centers for Disease Control and Prevention (CDC), as of March 1, 2002, 26 cases of bacterial infections associated with musculoskeletal tissue allografts, including one fatal case, had been reported. Of the 26 cases, 13 patients were infected with *Clostridium sordellii*, with 11 of these patients receiving tissue from the same tissue processor. None of the tissue transplants in these 26 cases had undergone sterilization. Most tissue transplants only undergo aseptic processing, which does not render them sterile. One reason is that some sterilization technologies can weaken tissue. The CDC also noted that the extended intervals between death and tissue harvesting from the donors likely contributed to the contamination.

The CDC recommended that a method that can kill bacterial spores should be used to process tissue. Unless a sporicidal method is used, aseptically processed tissue should not be considered sterile and healthcare providers should be informed of the possible risk for bacterial infection. If a sporicidal method is unavailable, then tissues should undergo culture and be discarded if *Clostridium* species or other bacteria normally found in bowel flora are detected. Cultures should also be validated to eliminate false-negatives.

The Food and Drug Administration also updated its industry guidance procedures for processing tissue transplants.

FROM: Centers for Disease Control and Prevention. Update: allograft-associated bacterial infections—United States, 2002. *MMWR* 2002;51:207-210.

Three-Year Study on *Aspergillus* in a Hospital Water System

Nosocomial aspergillosis, a life-threatening infection in immunocompromised patients, is thought to be caused primarily by *Aspergillus* organisms in the air. Anaissie and colleagues from the University of Arkansas for Medical Sciences, Little Rock, conducted a 3-year prospective study