Medical News

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Additional news items in this issue: *Management of Ventilator-Associated Pneumonia,* page 370; *Proposed Tuberculin PPD-S2 as Reference Standard,* page 386; *Risk Factors and Outcome for Vancomycin-Resistant and -Susceptible Enterococcal Bacteremia,* page 410; *New APIC Guideline for Infection Prevention and Control in Flexible Endoscopy,* page 416.

Multidose Vial Transmits HCV

Hepatitis C virus (HCV) is the most common chronic bloodborne infection in the United States, but nosocomial transmission has been reported rarely. Dr. S. Gerard Krause, of the CDC, recently reported the results of an investigation that identified four patients likely infected with HCV from a multidose vial of saline that was contaminated with the source-patient's blood. This may have occurred with reinsertion of a contaminated needle into the saline vial.

The investigation involved a cohort study of patients hospitalized on a ward in Miami between November 11 and November 19, 1998. Patients were interviewed, records were abstracted, and blood was tested for anti-HCV, and the HCV RNA-positive samples were genotyped.

Five patients were found to be infected with HCV genotype 1b. One patient, probably the source, had chronic HCV before being hospitalized. The other four patients, however, showed no evidence of prior HCV infection.

Of the 8 patients on the ward who received saline flushes of intravenous catheters within 2 to 6 hours after the source-patient, 4 (50%) became infected with HCV; of the 12 patients who did not receive saline flushes of their intravenous catheters, none were infected.

The researchers concluded that HCV was probably transmitted from a chronically infected patient to four other patients after a multidose saline vial was contaminated with the source-patient's blood. "The saline solution most likely became contaminated by accidental reinsertion of a contaminated needle or improper decontamination of the rubber membrane of the vial," Gerard-Krause said. "Subsequent flushes of the same vial could then have resulted in transmission of the virus."

"We recommend that hospitals emphasize proper adherence to infection control procedures. The use of single-dose vials or pre-filled syringes for saline flushes might further reduce the risk of nosocomial transmission of bloodborne pathogens," Krause said. "The hospital in question has now stopped the use of multidose vials in favor of single-use vials," he noted.

FROM: Krause SG, Whisenhunt S, Trepka M, Katz D, Ninan O, Wiersma S, et al. Patient-to-patient transmission of hepatitis C virus associated with the use of multidose vials of saline. Presented at the 49th Annual EIS conference; April 10-14, 2000; Atlanta, GA.

Emergence of Highly Antibiotic-Resistant *P aeruginosa*

Weiss and colleagues from the Florida Consortium for Infection Control, South Miami, Florida, conducted a study to examine antibiotic resistance in *Pseudomonas aeruginosa* in hospitalized patients in relation to prior empirical antibiotic therapy. The study consisted of two retrospective case analyses comparing patients who manifested *P aeruginosa* with differing patterns of antibiotic resistance in patients acquiring *P aeruginosa* infection in a community hospital. Patients were compared on duration of hospitalization and days and doses of antibiotics prior to recovery of *P aeruginosa.* Patients were grouped, based on susceptibility patterns of their *P aeruginosa* isolates, as follows: (1) fully susceptible (susceptible to all classes of antipseudomonal antibiotics [SPA]); (2) multidrug-resistant (resistant to two classes of antipseudomonal antibiotics [MDRPA]); or (3) highly drug-resistant (resistant to ⩾6 classes of antipseudomonal antibiotics [HRPA]). To control for duration of hospitalization, antibiotic treatments of HRPA and SPA patients were compared during the first 21 days of care.

Prior to recovery of HRPA, 6 HRPA patients received greater amounts of antibiotics, both antipseudomonal and non-antipseudomonal, than did 6 SPA patients prior to recovery of SPA. For 14 patients with hospital-acquired SPA who later manifested MDRPA, duration and dosage of antipseudomonal antibiotics, but not all antibiotics, were significantly higher for the SPA-to-MDRPA interval than for the preceding admission-to-SPA interval. The median duration of antipseudomonal antibiotic treatment prior to the recov-