

Medical News

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Burkholderia cepacia in Patients With Cystic Fibrosis

The gram-negative organism *Burkholderia cepacia* is an important pathogen in patients with cystic fibrosis (CF), but it is seen infrequently in non-CF patients. Holmes, of Boston School of Medicine, and colleagues reported a large outbreak of *B. cepacia* in a hospital that appeared to involve both patient groups, a previously unrecognized phenomenon.

The outbreak occurred at a hospital in Mississippi where, investigators say, 268 patients were infected. Of that total, 23 patients had CF and 245 did not. A single dominant clone in both CF and non-CF patients was found. Phylogenetic studies showed that the organism evolved independently, and the authors say it appears that highly transmissible strains such as this one can emerge rapidly and randomly.

Non-CF patients who acquired *B. cepacia* usually cleared the infection after they left the ICU, but the infection persisted in patients with CF. The risk of patients with CF acquiring the infection was linked to hospitalization and was associated with significantly increased mortality rates.

The authors stress that infection control policies should now take into account the possibility of nosocomial transmission of *B. cepacia* between CF patients and non-CF patients.

FROM: Holmes A, Nolan R, Taylor R, Finley R, Riley M, Jiang RZ, et al. An epidemic of *Burkholderia cepacia* transmitted between patients with and without cystic fibrosis. *J Infect Dis* 1999;179:1197-1205.

Control of HCV Spread in Hemodialysis Centers

A number of studies have shown that hemodialysis patients are at risk for hepatitis C virus (HCV) infection, and a strict relationship is clear between anti-HCV positivity and dialysis age or hospital dialysis, irrespective of previous blood transfusions. However, the precise mechanism of HCV nosocomial nontransfusal transmission among hemodialysis patients is not clear. Some investigators have recommended HCV patients be isolated like hepatitis B virus-infected patients.

Since isolation is a very expensive policy, Cerrai and coinvestigators from the Nephrology and Dialysis Unit, SMA Hospital, Florence, Italy, conducted a study to evaluate whether simpler measures, such as the observance of the Universal Precautions (UP) and the use of anti-HCV-

positive patient-dedicated monitors, could stop transmission of HCV infection in a hospital hemodialysis center. From January 1990 to December 1991 (first phase), the patients shared the monitors irrespective of their serological status for HCV, and training of the dialysis care staff was not performed with regard to UP. From January 1991 to June 1996 (second phase), according to UP, strictly personal dialysis tools were used for all patients, anti-HCV-positive patients were assigned to dedicated monitors in defined (not separated) areas of the dialysis rooms, and the dialysis care staff was trained to perform UP strictly.

In the first phase of the follow-up, five seroconversions occurred; none occurred in the second one. The authors conclude that isolation is not required for HCV-infected patients. They believe that measures such as the application of UP, dedicated machines, and continuous training of the care staff, instead of the isolation of positive patients, result in the same efficacy in preventing transmission of HCV and are cheaper than isolation of positive patients.

FROM: Cerrai T, Michelassi S, Ierpi C, Toti G, Zignego AL, Lombardi M. Universal Precautions and dedicated machines as cheap and effective measures to control HCV spread. *EDNTNA ERCA J* 1998;24:43-45,48.

Restricting Hospital Formulary to Control Antimicrobial Resistance

Approximately 7 years ago, researchers from the VA Medical Center in Brooklyn, New York, instituted infection control measures to thwart the spread of vancomycin-resistant enterococci. When that failed to work, they decided to try to control the outbreak by making changes in the hospital formulary. The main changes they instituted were an emphasis in the use of β -lactam and β -lactamase-inhibitor drugs and restrictions in the use of third-generation cephalosporins, vancomycin, and clindamycin. Those changes were successful in limiting the spread of vancomycin-resistant enterococci and *Clostridium difficile*, and those results have been previously published.

In a recent report, the same researchers tracked the effects of the formulary changes on other nosocomial pathogens. They report an approximate 22% monthly reduction in patients with methicillin-resistant *Staphylococcus aureus* and a 35% reduction in patients with ceftazidime-resistant *Klebsiella pneumoniae*. However, they also saw nearly a doubling of patients with positive cultures for cefotaxime-resistant *Acinetobacter* organisms.

They conclude that, even though making changes in hospital formularies may help contain the spread of some resistant pathogens, close surveillance is needed to detect the emergence of other resistant organisms.

FROM: Landman D, Chockalingam M, Quale JM. Reduction in the incidence of methicillin-resistant *Staphylococcus aureus* and ceftazidime-resistant *Klebsiella pneumoniae* following changes in a hospital antibiotic formulary. *Clin Infect Dis* 1999;28:1062-1066.

Tunneled Femoral Catheters and Risk of Infection

Timsit and colleagues from St Joseph Hospital, Paris, France, recently report on a study that evaluated the effect of catheter tunneling on femoral catheter-related infection in critically ill patients.

In a randomized, controlled trial, the study population included 345 patients requiring a femoral venous catheter for more than 48 hours in three ICUs at academic hospitals in Paris, France.

Of 345 randomly assigned patients, 336 were evaluable. Probable systemic catheter-related sepsis occurred in 15 of 168 patients who received a nontunneled femoral catheter (controls) and in 5 of 168 patients who received a tunneled femoral catheter. Time to occurrence of catheter-related bloodstream infection was not significantly modified; three events occurred in the control group, and one event occurred in the tunneled-catheter group. After stratification by treatment center and adjustment for variables that were prognostic (use of broad-spectrum antimicrobial agents at catheter insertion) or imbalanced between both groups (mechanical ventilation at insertion), tunneled catheterization reduced the proportion of patients who developed systemic catheter-related sepsis ($P=0.005$).

The authors concluded that the incidence of femoral catheter-related infections in critically ill patients can be reduced by using subcutaneous tunneling.

FROM: Timsit JF, Bruneel F, Cheval C, Mamzer MF, Garrouste-Orgeas M, Wolff M, et al. Use of tunneled femoral catheters to prevent catheter-related infection: a randomized, controlled trial. *Ann Intern Med* 1999;130:729-735.

HCV Infection From Contaminated Anti-D Immune Globulin

In February 1994, batches of anti-D immune globulin used in Ireland during 1977 and 1978 to prevent Rh isoimmunization were found to be contaminated with hepatitis C virus (HCV) from a single infected donor. In March 1994, a national screening program was initiated for all women who had received anti-D immune globulin between 1970 and 1994. Of the 62,667 women who had been screened when this study began, 704 (1.1%) had evidence of past or current HCV infection, and 390 (55%) of those 704 had pos-

itive tests for serum HCV RNA on reverse-transcription polymerase chain reaction analysis. All 390 were offered a referral for clinical assessment and therapy. Researchers evaluated 376 (96%) of these 390 women.

A total of 304 women (81%) reported symptoms, most commonly fatigue (248 [66%]). Serum alanine aminotransferase concentrations were slightly elevated (40-99 μ /L) in 176 (47%) of 371 women, and the concentrations were 100 μ /L or higher in 31 (8%). Liver biopsies showed inflammation in 356 (98%) of 363 women; in most cases, the inflammation was slight (41%) or moderate (52%). Although the biopsy samples from 186 (51%) of the 363 women showed evidence of fibrosis, only 7 women (2%) had probable or definite cirrhosis. Two of the seven reported excessive alcohol consumption.

The researchers concluded that most of the women with HCV infection 17 years after receiving HCV-contaminated anti-D immune globulin had evidence of slight or moderate hepatic inflammation on liver biopsy, approximately one half had fibrosis, and 2% had probable or definite cirrhosis.

FROM: Kenny-Walsh E. Clinical outcomes after hepatitis C infection from contaminated anti-D immune globulin. *N Engl J Med* 1999;340:1228-1233.

Reporting of Diseases by Healthcare Professionals and Laboratories

Surveillance is a key component of the core public-health function of health assessment. Systematic reporting by healthcare professionals and laboratories, which may vary by state law, statute, or regulation, continues to provide essential data for assessing public health. Researchers from the CDC recently described the state and territorial reporting requirements for diseases and conditions recommended for national public-health surveillance. Information was obtained during May and August 1997, and the state and territorial epidemiologists from all 50 states, in addition to New York City, Puerto Rico, and Guam, completed questionnaires indicating which diseases and conditions were reportable by healthcare professionals and laboratories in their jurisdictions. The overall response rate for the survey was 100% for US states and 90% overall, including the territories.

Of the 58 diseases and conditions recommended for national reporting, 35 (60%) were reportable in greater than 90% of the states and territories, 15 (26%) were reportable in 75% to 90%, and 8 (14%) were reportable in less than 75%. Nineteen of the infectious diseases were reportable in all of the states and territories that responded.

Required reporting varies substantially by state or territory. Healthcare professionals are integral to public-health efforts at the local, state, and national levels.

FROM: Roush S, Birkhead G, Koo D, Cobb A, Fleming D. Mandatory reporting of diseases and conditions by health care professionals and laboratories. *JAMA* 1999;282:164-170.