an increase in BSIs, initiation of an investigation, application of epidemiological and laboratory techniques to identify the potential source, and implementation of infection control interventions illustrate the importance and benefit of hospital infection control personnel for the prevention of nosocomial infections throughout the world.

REFERENCES

1. Banerjee SN, Emori TG, Culver DH, Gaynes RP, Jarvis WR, Horan T, et al. Secular trends in nosocomial primary bloodstream infections in the United States, 1980-1989. *Am J Med* 1991;91(suppl 3B):86S-89S.
2. Pollack MM, Ruttimann UE, Getson PR. Pediatric risk of mortality (PRISM) score. *Crit Care Med* 1988;16:1110-1116.
3. Edwards PR, Ewing WH. *Identification of Enterobacteriaceae*. 3rd ed. Minneapolis, MN; Burgess Publishing Co; 1972.
4. National Committee for Clinical Laboratory Standards. *Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically*. 2nd ed. Villanova, PA: National Committee for Clinical Laboratory Standards; 1990;10(8). Approved standard, M7-A2.
5. Portnoy DA, Moseley S, Falkow S. Characterization of plasmids, and plasmid-associate determinants of *Yersinia enterocolitica* pathogenesis. *Infect Immun* 1981;31:775-782.
6. Maki DG. Infections due to infusion therapy. In: Bennett JV, Brachman PS, eds. *Hospital Infections*. 3rd ed. Boston, MA: Little Brown and Company; 1992:849-898.
7. Maki DG, Rhame FS, Mackel DC, Bennett JV. Nationwide epidemic of septicemia caused by contaminated intravenous products: I, epidemiologic and clinical features. *Am J Med* 1976;60:471-485.
8. Kingdom of Saudi Arabia Ministry of Health. *Infection Control Manual*. Riyadh, KSA: 1408.
9. Pearson ML, the Hospital Infection Control Practices Advisory Committee. Guideline for prevention of intravascular device-related infections. *Infect Control Hosp Epidemiol* 1996;17:438-455.

Contamination of Peritoneal Dialysis Connection Devices

Gina Pugliese, RN, MS
Martin S. Favero, PhD

Scientists from University of Auckland, New Zealand, have reported studies designed to determine the level of bacterial contamination associated with touch contact of a connector set during peritoneal dialysis (PD). The experiment utilized a laboratory-based simulation of a bag exchange procedure. Deliberate touch contamination of the connector-set spike was followed by quantitative recovery of microorganisms from the connector and, in some cases, the dialysis bag.

Patients undergoing PD were used as the "test" group. Departmental secretarial and laboratory staff served as the comparative control group. The patients were voluntary subjects from a PD outpatient unit and were tested in their own homes.

The results showed that the numbers of microorganisms contaminating a connector set and entering the dialysis bag during a touch-contamination event were determined. Additionally, they identified hand hygiene and, in particular, the care taken to dry the hands after washing as being highly relevant to microbial touch-contamination levels. Patient hand disinfection, as practiced in most PD units, effectively reduced touch contamination to low levels.

Touch contamination of a connector set with unprepared hands led to fewer than 100 microorganisms translocating from fingers to the spike. If the hands were washed but not dried before touch contact was made, up to 4,500 microorganisms translocated to the connector-set spike. Air-towel drying of washed hands before touch contact reduced the translocating numbers by 95%-99%. Hand disinfection, as routinely practiced by PD patients, reduced the bacterial numbers reaching the peritoneal cavity after touch contamination to <5. The range of microorganisms isolated from the fingers of PD patients using hand disinfectants on a regular basis showed considerably more diversity than the control group.

It was concluded that hand care prior to bag exchange has a major effect on touch-contamination levels. Accidental touch contact of connecting devices by unprepared hands using a PD-bag exchange procedure leads to the translocation of 500 microorganisms or fewer to the connector device. If the hands are wet at the time of contact, the number translocating can be as high as 4,500. Hand drying with an air towel before touch contact reduces the numbers translocating by 95%-99%. Hand disinfection procedures carried out prior to bag exchange minimizes touch-contamination levels.

FROM: Miller TE, Findon G. Touch contamination of connection devices in peritoneal dialysis-a quantitative microbiologic analysis. *Perit Dial Int* 1997;17:560-567.

https://doi.org/10.1017/S0195941700005919 Published online by Cambridge University Press