

therefore, we were not able to stratify patients according to the lot number. A relationship between the total volume of polygeline used in the operating room and the development of adverse reactions was found, suggesting a dose-dependent effect. However, our study was limited by the relatively small number of cases included (as evidenced by the wide CI₉₅ for many of the OR), resulting in a low power of the multiple logistic regression analysis to identify important variables as independent predictors.

An alternative explanation for the outbreak was that those patients requiring higher volumes of plasma expander were more likely to become hypotensive because of another unknown underlying process, which resulted in the requirement for more plasma expander in the first place. However, the etiologic role of the polygeline was supported by the biological dose response trend and by control of the outbreak once the use of polygeline was discontinued. Furthermore, the manufacturer was notified of other cases of isolated mild adverse events (fever and hypotension), possibly related to polygeline, in several hospitals from Spain and other European countries (Italy, France, and The Netherlands).

The contamination of blood, blood products, intravenous fluids, or drugs is an uncommon source of epidemics or pseudoepidemics in hospitals. In such cases, the identification of a risk factor or common source is not an easy task, and clinicians and epidemiologists always should be aware of new potential sources of clusters of adverse events.

REFERENCES

- Freeman MK. Fatal reaction to haemaccel. *Anesthesia* 1979;34:341-343.
- Barrat S, Purcell GJ. Refractory bronchospasm following haemaccel infusion and bupivacaine epidural anesthesia. *Anaesth Intensive Care* 1988;16:208-211.
- Jurado AS, Piheiro TJ, Madeira VM. Physical studies on membrane lipids of *Bacillus stearothermophilus* temperature and calcium effects. *Arch Biochem Biophys* 1991;289:167-179.
- Breitwieser A, Gruber K, Sleytr UB. Evidence for an S-layer protein pool in the peptidoglycan of *Bacillus stearothermophilus*. *J Bacteriol* 1992;174:8008-8015.
- Forrest TM, Wilson GE, Pan Y, Schaefer J. Characterization of cross-linking of cell walls of *Bacillus subtilis* by a combination of magic-angle spinning NMR and gas chromatography-mass spectrometry of both intact and hydrolyzed 13C- and 15N-labeled cell-wall peptidoglycan. *J Biol Chem* 1991;266:24485-24491.
- Hemila H. Sequence of a PAL-related lipoprotein from *Bacillus subtilis*. *FEMS Microbiol Lett* 1991;66:37-41.
- Noble RC, Reeves SA. *Bacillus* species pseudosepsis caused by contaminated commercial blood culture media. *JAMA* 1974;230:1002-1004.
- Berger SA. Pseudobacteremia due to contaminated alcohol swabs. *J Clin Microbiol* 1983;18:974-975.
- Gurevich I, Tafuro P, Krystofiak SP, Kalter RD, Cunha BA. Three clusters of *Bacillus* pseudobacteremia related to a radiometric blood culture analyzer. *Infect Control* 1984;5:71-74.
- Centers for Disease Control. Bacterial contamination of platelet pools—Ohio, 1991. *MMWR* 1992;41:36-37.
- Goldstein B, Abrutyn E. Pseudo-outbreak of *Bacillus* species related to fiberoptic bronchoscopy. *J Hosp Infect* 1985;6:194-200.
- Richardson AJ, Rothburn MN, Roberts C. Pseudo-outbreak of *Bacillus* species related to fiberoptic bronchoscopy. *J Hosp Infect* 1986;7:208-210.
- LeHau LA, Benjamin D, Cantrell HE, Potts DW, Boggs JM. *Bacillus* species pseudomeningitis. *Infect Control Hosp Epidemiol* 1989;9:394-397.
- Bryce EA, Smith JA, Tweeddale M, Andruschak BJ, Maxwell MR. Dissemination of *Bacillus cereus* in an intensive care unit. *Infect Control Hosp Epidemiol* 1993;14:459-462.

Community Outbreak of Legionnaires' Disease from Hospital Cooling Tower

by Gina Pugliese, RN, MS
Medical News Editor

From July to September 1994, 29 cases of Legionnaires' Disease (LD) were reported to the Delaware health department. None of the cases were nosocomial despite the fact that they were linked to the hospital. A case-control study was conducted after control procedures were instituted. Microbiological assays were performed on waters from the hospital cooling towers and from eight nearby cooling towers. Hospital staff and adjacent census tract residents had the highest incidence of LD pneumonia. *Legionella*

pneumophila serogroup 1 (LP1) was isolated from four case patients and both hospital cooling towers, but from none of the other cooling towers. The isolates were subtyped by monoclonal antibody analysis and arbitrarily primed polymerase chain reaction. The four cooling tower isolates had the same patterns as did isolates from two cases who lived or worked within a mile of the tower. The other two cases had a different subtype and had not been within a mile of the tower. Twenty-one cases had worked at or had visited the hospital. By point of closest contact, the odds ratio (OR) for illness decreased by 20% for each 0.1 mile from the hospital.

Each hospital visit increased the OR by 80%, whereas visits to more distant sites only increased the OR by 29% to 66%.

The investigators concluded that epidemiologic and typing results identified the hospital cooling towers as the source of the community outbreak of LD, and that increased proximity and frequency of exposure to the hospital increased the risk.

FROM: Brown CM, Nuorti P, Fields B, et al. Community outbreak of Legionnaires' Disease. Abstracts of the 44th Annual Epidemic Intelligence Service Conference. March 27-31, 1995; Atlanta, Georgia.