Medical News

EDITED BY GINA PUGLIESE, RN, MS; MARTIN S. FAVERO, PHD

Pseudomonas Outbreak From Bath Toys

Nosocomial outbreaks of *Pseudomonas aeruginosa* in pediatric hospitals frequently involve neonates and immunosuppressed patients and can cause substantial morbidity and mortality. Buttery and colleagues recently reported a multidrug-resistant *P aeruginosa* outbreak in a pediatric oncology ward at the Royal Children's Hospital, Melbourne, Australia.

Eight patients had clinical illnesses including bacteremia (5), infections of skin (2), central venous catheter site (1), and urinary tract (1). The environmental ward survey yielded isolates of multiresistant *P aeruginosa* from a toy box containing water-retaining bath toys, as well as from three of these toys. Pulsed-field gel electrophoresis of bacterial DNA demonstrated identical band patterns of the isolates from patients, toys, and toy-box water. A case-control study involving the 8 cases and 24 disease-matched controls demonstrated a significant association between *P aeruginosa* infection and use of bath toys (P=.004), use of bubble bath (P=.014), duration of stay (P=.007), and previous antibiotic exposure (P=.026). Cultures from the bubble-bath liquid were negative.

This is the first report of a nosocomial outbreak associated with bath toys. The authors caution against the use of water-retaining bath toys in wards treating immunocompromised children.

FROM: Buttery JP, Alabaster SJ, Heine RG, Scott SM, Crutchfield RA, Garland SM. Multiresistant *Pseudomonas aeruginosa* outbreak in a pediatric oncology ward related to bath toys. *Pediatr Infect Dis J* 1998;17:509-513.

Eye Injuries From Chlorine-Disinfected Tonometer

Too often, household bleach is used to disinfect medical devices that are used on patients. Sodium hypochlorite solutions are good microbicides but they are incompatible with many medical devices, and, if not rinsed properly, the device may cause injury to exposed tissues. Maldonado, from the Department of Ophthalmology, Albacete General Hospital, Valencia, Spain, recently reported a study in which the disinfection procedure caused eye injuries, not because of direct exposure to chlorine, but due to exposure to chlorine-damaged instruments.

This study aimed to describe a previously unreported complication associated with the use of chlorine-disinfected applanation tonometer heads for intraocular pressure measurement after excimer laser photorefractive keratectomy. Two weeks apart, two patients underwent, respectively, a 7-diopter and a 4-diopter myopic excimer-laser correction in the first eye. Complete epithelial closure of the ablated area was observed by biomicroscopy in the first-week examination. Four weeks after photorefractive keratectomy, a complete ophthalmic examination was performed. Goldmann applanation tonometry was performed bilaterally after thoroughly rinsing and drying the tonometer biprism, which had been immersed regularly in a solution containing 5,000 ppm chlorine (a 1/10 dilution of household bleach). Slit-lamp examination and corneal topographic surface regularity were measured.

A few minutes after applanation tonometry, both patients reported ocular discomfort in the excimer laser-treated eyes, whereas the untreated fellow eyes were painless. Punctate corneal lesions and superficial epithelial-cell clumping were present in the first patient's treated eye, predominantly in the inferior aspect of the applanated cornea. Visual inspection showed a normal tonometer tip. In the second patient's treated cornea, a focal epithelial defect was identified biomicroscopically, which corresponded to the steeper region within the ablation zone on the videokeratograph. In this case, crystal deposits were found on the tonometer tip. The epithelial alterations resolved without sequelae in both cases. It was concluded that disinfecting solutions of chlorine can cause crystal deposit formation on the tonometer head. Applanation tonometry after repeated disinfection with chlorine solutions appears to have the potential for disrupting the epithelial layer of the healing cornea. Covered contact tonometry or noncontact tonometry should be evaluated as alternative methods to chemically disinfected contact tonometry for intraocular pressure measurement after excimer laser surgery, especially during the first postoperative month.

FROM: Maldonado MJ. Corneal epithelial alterations resulting from use of chlorine-disinfected contact tonometer after myopic photorefractive keratectomy. *Ophthalmology* 1998;105:1546-1549.

Nursery Outbreak of *Stenotrophomonas maltophilia*

Investigators from the University Hospital Nijmegen, The Netherlands, recently reported an outbreak of *Stenotrophomonas maltophilia* among preterm infants in a neonatal intensive-care unit (NICU). Between March and May 1996, *S maltophilia* was isolated from endotracheal aspirate samples from five preterm infants in the NICU. Four infants were colonized superficially, and a fifth infant died due to *S maltophilia* septicemia. *S maltophilia* was isolated from tap water from three outlets in the NICU, including one with a previously unnoticed defective sink drain. Water from these outlets was used to wash the preterm infants. Environmental and clinical *S maltophilia* isolates yielded identical banding patterns on random arbitrary polymorphic DNA polymerase chain reaction analysis. The outbreak was controlled by reinforcement of hand washing, limitation of the use of tap water for hand washing, and by using sterile water to wash the preterm infants. The authors concluded that tap water should not be used for washing preterm infants in the NICU, unless steps are taken to prevent microbial growth in the outlets.

FROM: Verweij PE, Meis JF, Christmann V, Van der Bor M, Melchers WJ, Hilderink BG, et al. Nosocomial outbreak of colonization and infection with *Stenotrophomonas maltophilia* in preterm infants associated with contaminated tap water. *Epidemiol Infect* 1998;120:251-256.

Acquisition and Mortality of MRSA in ICU

Investigators from the Department of Surgery, University Hospital Rotterdam Dijkzigt, The Netherlands, conducted a point-prevalence survey to evaluate the risk of patients in intensive-care units (ICUs) becoming infected with methicillin-resistant *Staphylococcus aureus* (MRSA) and to assess the mortality during a 6-week follow-up period, compared with patients who

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