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**ISSUE:** Hospital construction and renovation can result in elevated *Aspergillus* species (spp.) spore counts and increase the risk of nosocomial aspergillosis in high-risk patients. In August 2006, two patients in a 24-bed surgical intensive care unit (SICU) had positive cultures for *Aspergillus* spp. on the same day. The patients' rooms were adjacent to automatic doors leading to a lobby, where wallpaper replacement was underway. An investigation was begun to determine the extent and possible sources of the aspergillus.

**PROJECT:** Patient chart review revealed *Aspergillus fumigatus* and *A. flavum* in a wound culture from Patient A; Patient B grew *A. flavus* and *A. niger* in a tissue culture. The involved rooms were closed and inspected for dust, water leaks, or water damage. Air and spore trap samples were collected in both patient rooms, the nurses' station nearest the rooms, the lobby, and the outside air intake supplying SICU air; specimens were obtained by an outside contractor under the supervision of Environmental Health and Safety. Wound and respiratory cultures were obtained on all patients in the unit. Per hospital policy, an Infection Control Risk Assessment had been completed prior to the start of the construction project; investigation of the renovation site revealed a functioning HEPA filter, dust on the carpet, and 2 box fans in use. The lobby area was cleaned immediately. Because of a bed shortage, patient rooms were terminally cleaned before environmental surface samples were obtained.

**RESULTS:** Patient surveillance cultures were negative for *Aspergillus* and no additional patient cultures were positive over the next 30 days. Airborne mold counts from all areas sampled ranged from 18-216 CFU/m<sup>3</sup>; the highest number (216) represented the outside air intake. These levels were significantly lower than levels recommended for remediation (500 CFU/m<sup>3</sup>). Minimal dust was noted on the air intake filters in both rooms; no water leaks or stained ceiling tiles were noted. The renovation project manager confirmed that plastic barriers had been in place but occasionally came loose when the SICU automatic doors opened; when this occurred, the doors were immediately pushed closed and the barrier re-taped. An oscillating fan was observed in the mycology area of the Microbiology Lab during the time the positive patient cultures were processed.

**LESSONS LEARNED:** No definitive cause was identified in the two positive cultures. Rapid investigation by infection prevention specialists, which included assessment of the renovation project and implementation of environmental cleaning, may have been key factors in preventing the spread of *Aspergillus* to other high-risk patients.

TG Buchman, PhD, MD, FACS, FCCM, National Institute of Health, Principal Investigator/Research, Research Support, Defense Advanced Research Projects Agency, Principal Investigator/Research, Research Support, James S. McDonnell Foundation, Principal Investigator/Research, Research Support; DK Warren, MD, MPH, Pfizer Pharmaceuticals, Speaker's Bureau, Honorarium, GeneOhm Sciences, Inc., Research Consultant, Research Support, Astellas Pharma, Inc., Research Consultant, Research Support, Verimatrix, Inc., Research Consultant, Research Support, 3M Healthcare, Consultant, Research Support.

Publication Number 10-130

## **G I Wish This Hadn't Happened: An Outbreak of Norovirus in Rehab and Psych Units**

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ISSUE: At the height of a community outbreak of Norovirus in December 2006, the Infection Prevention and Control Department received notification that 2 patients from the Rehab department had stool culture results positive for Norovirus. Upon further investigation, 17 other patients and 5 staff on the Adolescent and Adult Psychiatric units from 2 floors below were exhibiting varying signs and symptoms of nausea, vomiting, diarrhea, fever, chills and abdominal cramps indicative of gastrointestinal illness. Since Infection Control had not been notified until after the first 2 positive stool cultures were obtained, immediate action was imperative.

PROJECT: Patient and staff information was communicated to Public Health (PH) and Department of Health Services (DHS) through Risk Management. Nursing, Administration and Employee Health (EH) were also notified. The actions taken included recommendations from DHS and PH and are as follows. Symptomatic patients were placed on contact isolation regardless of stool culture result. The units were closed to admission, and discharging patients to other Long Term Care (LTC), Skilled Nursing Facility (SNF) and other facilities was halted. Symptomatic staff was restricted from work until 48 hours after they became symptom free. Cleaning the units with bleach solution at 4-hour intervals was also implemented and inservice was provided. Instructions were given to Food and Nutrition Services (FNS) regarding handling and cleaning of food carts. Infection Control gathered daily updates and provided Employee Health with employee names, onset of symptoms. They approved the employee to return to work 24 hours after symptoms subside. Visitors were instructed not to visit the unit if they had gastrointestinal symptoms and signs were posted at the entrance of each unit regarding hand washing before and after visiting. Units were monitored daily for new episodes and containment. Specimens were collected from the patients and sent for culture. Not all symptomatic patients were positive for Norovirus. Forty-eight hours after the last patient and/or staff had symptoms a physical assessment, evaluation, and discussion with PH resulted in approval to reopen units for admission.

RESULTS: A total of 38 patients and 36 staff were affected during this outbreak. Twelve days after initial notification the outbreak was contained and the 3 units in Rehab and Psych were reopened for admission and transfer.

LESSONS LEARNED: Communication and collaboration is essential in the containment of spread in a gastrointestinal outbreak. This collaboration must include department managers, nursing staff, administration, and ancillary services from EVS, laboratory, FNS, EH as well as communication with PH and DHS. Vigilance in monitoring each case halted transmission in a rehab and psych unit as well as scrupulous hand hygiene and increased and scheduled environmental cleaning.

Publication Number 10-131

## **Extreme-Drug Resistant *Acinetobacter baumannii*: Outbreak Investigation**

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ISSUE: *Acinetobacter baumannii* (Ab) has a propensity for the rapid development of antimicrobial resistant to many classes of antibiotics. Ab resistant to all penicillins, cephalosporins, monobactams, carbapenems, quinolones, and aminoglycosides are defined as pan-drug resistant or extreme-drug resistant (XDR). Here we described an outbreak of XDR-Ab in a long-term acute care facility.