facilitated by antibiotic use and the lack of infection control routines, leading to increased morbidity and mortality of individuals due to preventable diseases.

This brief study describes the profile of bacterial resistance and strategies for prevention and control in a teaching hospital in southern Brazil. The analysis of microbiological cultures of infections and colonization identified the hospital's microorganism profile. It was observed that hospitalizations due to infections increased the length of hospital stay by an average of 35 days. Analysis of data for the second half of 2011, with a total of 210 microorganisms identified, showed 48% of *Staphylococcus* spp resistant to methicillin, 26% of *Pseudomonas* spp resistant to carbapenem, 9% of *Acinetobacter* spp resistant to carbapenem, 7% of *Klebsiela* spp resistant to amikacin, and 12% of the CESP group resistant to amikacin. No resistance to polymyxin was noted.

Once these indicators were established, guidelines for contact precautions were reinforced. These precautions are ideally performed in private rooms with specific routines to reduce cross-transmission and management of infected patients at the bedside and on transport, provide guidance to family members and visitors, and provide alcoholic chlorhexidine at the bedside. To identify these patients, illustrative plates are placed on the doors of their rooms, listing routine use of materials and equipment specific for each type of precaution, as well as color charts according to each routine. An electronic surveillance system containing information on the colonized/infected patients helps maintain control of these measures. In this context, it is necessary to establish educational activities with the teams regarding the use of personal protective equipment, as well as hand hygiene of professionals and management of catheters and care protocols.

The efforts of all health professionals are essential to the control of infections related to health services, and their co-participation will favor the main outcome of minimizing bacterial resistance. Success is related to an approach that addresses the individual practice. Furthermore, this understanding confirms that the health professionals and institutions should abandon the simplistic idea that the infection control and transmission of nosocomial pathogens in health care facilities is the sole responsibility of Infection Control Committee members, and understand that professionals must actually be part of the process as members, and co-responsible for this process.

References

1. National Agency of Sanitary Surveillance, Ministry of Health of Brazil. Measures for identification, prevention and control of infections related to health care by multiresistant microorganisms. Brasília: ANVISA; 2010. http://portal.anvisa.gov.br/wps/wcm/connect/6c8f7b8047457811857ed53fbc4c6735/nota25-10-2010.pdf?MOD=AJPERES. Accessed October 2, 2012.
2. Moody J, Cosgrove SE, Olmsted R, Septimus E, Aureden K, Oriola S, et al. Antimicrobial stewardship: a collaborative partnership between infection preventionists and health car epidemiologists. Am J Infect Control 2012;40:94-5.
3. McGowan JE. Antimicrobial stewardship—the state of the art in 2011: focus on outcome and methods. Infect Control Hosp Epidemiol 2012;33:331-7.

Conflict of interest: None to report.

Eliane Carlosso Krummenauer, RN, ICP
Marcelo Carneiro, MD, MSc, ICP*
Janete Aparecida Alves Machado, RN, ICP
Janine de Mello Rauber, PharmD, MSc, ICP
Mariana Schmitt Adam, RN, ICP
Leandro Bizarro Muller, MD, MSc
Manoela Suzana Persch, MS
Jenifer Grotto de Souza, MS
Infection Control and Hospital Epidemiology Commission
Hospital Santa Cruz
Universidade de Santa Cruz do Sul
Santa Cruz do Sul, Rio Grande do Sul, Brazil

* Address correspondence to Marcelo Carneiro, MD, MSc, ICP, Infection Control and Hospital Epidemiology Commission, Hospital Santa Cruz, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, Rio Grande do Sul, Brazil.
E-mail address: carneiromarcelo@yahoo.com.br (M. Carneiro)

http://dx.doi.org/10.1016/j.ajic.2012.03.036

How clean are the overhead lights in operating rooms?

To the Editor:

We assessed the cleanliness of the illuminating glass surface (IGS) of overhead lights in operating rooms in our ambulatory surgical suite by obtaining bacterial and fungal culture swabs from these surfaces. Many studies have been done investigating disinfection in the operating room, but to date there are no reports regarding the cleanliness of the of overhead lights in operating rooms, and therefore no guidelines exist that pertain to cleaning these surfaces.[1,2]

Overhead lights have 3 parts: head, arm, and ceiling mount. The head has a dome with an IGS. This IGS overlies the sterile surgical field and is expected to be clean, if not sterile. All surfaces are usually cleaned before and after each and every procedure by a dedicated team of cleaners. Observation revealed that cleaning of IGS is at times missed in the ambulatory surgical suite because of high turnover and time constraints between cases.

After institutional review board approval, a pilot study was performed wherein 5 operating rooms (specifically Rooms 1, 2, 3, 4, and 7) in the ambulatory surgical suite at our hospital were selected on a random day where several surgeries were booked. Each operating room had 2 overhead, movable lights, from which culture swabs were taken twice in the same day from the IGS: once before the beginning of the first surgery and once after the end of the last surgery. Both cleaners and personnel involved in culturing the swabs were blinded. Bacterial cultures were grown for up to 1 week and fungal cultures were incubated for 2 weeks.

Cultures from 3 of 5 operating rooms had positive bacterial growth. One light in Room 1 showed no growth initially but grew *Staphylococcus epidermidis* after the last case. Similarly, 1 light in Room 2 grew *S. epidermidis* before the first case, but had no growth after the last case. In Room 7, 1 light grew *S. epidermidis* in the morning and *Streptococcus viridans* as well as *S. epidermidis* in the evening. The second light in Room 7 grew *Neisseria mucosa* in the morning and *S. epidermidis* in the evening. All strains of *S. epidermidis* were different and multi-drug resistant. The remaining swabs from the other operating rooms showed no bacterial growth. All 20 swabs for fungal cultures yielded negative results.

Growth of bacteria like *Staphylococcus*, *Streptococcus*, and *Neisseria* from the overhead lights makes the IGS a potential source of surgical site infections, thus possibly contributing to morbidity and mortality among patients having surgery because they have been shown to contribute to perioperative infections.[2,3] All 3 bacteria strains have been shown to cause many infections, with endocarditis being the most significant.[4] We believe cross-contamination may have a role in the growth of bacteria on these lights, especially if the lights are cleaned with the same wipe that was used to clean other surfaces in operating rooms and from soiled gloves worn by personnel, because once gloves are worn they are hardly ever changed within an operating room.

Although these results cannot be generalized to other operating rooms or institutions, we believe that the practices of decontamination are similar, potentially leading to cross-contamination of the IGS of the overhead lights at other hospitals. Consequently, specific guidelines should be formulated, and personnel involved in the cleaning process should use a new pair of clean gloves and a new, clean antiseptic wipe while cleaning overhead lights to prevent cross-contamination, in turn preventing a bacterial shower onto the sterile surgical field, if any. Care should also be taken to ensure surfaces are thoroughly cleaned between cases, especially in ambulatory surgical suites with high rates of turnover.

We expect to implement these changes in our institution in the immediate future and a study will be performed to re-evaluate the cleanliness of these lights after these practices have been in place. Also, the possibility of a bacterial or fungal shower from IGS will be addressed.

References

1. Young EC, Sanford TA. Chaos to comprehension: cleaning, sterilization, and disinfection. Urol Nurs 2003;23:329-32. 377.
2. Patwardhan N, Kelkar U. Disinfection, sterilization, and operation theater guidelines for dermatosurgical practitioners in India. Indian J Dermatol Venereol Leprol 2011;77:83-93.
3. Aksoy E, Boag A, Brodbelt D, Grierson J. Evaluation of surface contamination with staphylococci in a veterinary hospital using a quantitative microbiological method. J Small Animal Pract 2010;51:574-80.
4. Bacon AE III, Pal PG, Schaberg DR. Neisseria mucosa endocarditis. J Infect Dis 1990;162:1199-201.

Conflicts of interest: Funds for this project provided by Park Slope Anesthesia PC.

Arun Kalava, MD*
Monica Midha, MBS
Lakshmi N. Kurnutala, MD
Joseph SchianodiCola, MD
Joel M. Yarmush, MD, MPA
Department of Anesthesiology, New York Methodist Hospital, Brooklyn, NY

* Address correspondence to Arun Kalava, MD, Department of Anesthesiology, New York Methodist Hospital, 506 6th St, Brooklyn, NY 11215.
E-mail address: arunkalava@yahoo.com (A. Kalava)

http://dx.doi.org/10.1016/j.ajic.2012.04.335