



Letter to the Editor

Preoperative chlorhexidine baths/showers: For or against?

To the Editor:

Surgical site infections (SSIs) are a major health care-related problem in Brazil. SSIs are considered the third most prevalent sort of infection in our country. A national study carried out by the Ministry of Health of Brazil in 1999 found SSI in 11% of all surgical procedures analyzed.¹

The recent review article by Chlebicki et al,² whose meta-analysis suggested no benefit of using chlorhexidine to prevent SSI, sparked a debate in our service regarding our practice of chlorhexidine use.

Chlorhexidine is a broad-spectrum topical antiseptic agent capable of decreasing colonization by bacteria from the skin with effectiveness against multidrug-resistant organisms (eg, methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *Enterococcus*).³ This antiseptic agent has the potential to prevent other types of health-related infections besides SSIs. A recent randomized clinical trial published by Climo et al⁴ studied the effect of daily bathing/showering with chlorhexidine in preventing nosocomial bloodstream infections in patients admitted to intensive care units. This multicenter study assessed 7,727 patients and observed a significant decrease in bloodstream infection rates in patients at risk for infection.

Considering that the effect of chlorhexidine is a topical one, we believe that the inclusion of contaminated surgeries in the meta-analysis was inappropriate, although a subgroup analysis excluding these surgeries did not change the results. Furthermore, preoperative prophylaxis differed among the studies, possibly contributing to the differences in outcome. Analyzing the types of surgeries covered in the studies reveals a remarkable diversity of surgical sites, which could affect infection risk based on timing and complexity of surgical procedures and disease severity. Interestingly, the meta-analysis and randomized clinical trial had a similar number of patients. Despite the different methodologies

and outcomes of previous studies, we conclude that the protective effect of chlorhexidine is real.

Considering the lack of well-designed studies to allow a meta-analysis with little bias, we remain in favor of continuing preoperative chlorhexidine baths/showers for the prevention of SSIs, especially in orthopedic and cardiac implant surgeries.

References

1. National Agency for Sanitary Vigilance. Surgical site: National criteria infections related to health care. Brasilia [Brazil]: National Agency Health Surveillance; 2009. p. 1-19 [in Portuguese].
2. Chlebicki MP, Safdar N, O'Horo JC, Maki DG. Preoperative chlorhexidine shower or bath for prevention of surgical site infection: a meta-analysis. *Am J Infect Control* 2013;41:167-73.
3. Bass P, Karki S, Rhodes D, Gonelli S, Land G, Watson K, et al. Impact of chlorhexidine-impregnated washcloths on reducing incidence of vancomycin-resistant enterococci colonization in hematology and oncology patients. *Am J Infect Control* 2013;41:345-8.
4. Climo MW, Yokoe DS, Warren DK, Perl TM, Bolon M, Herwaldt LA, et al. Effect of daily chlorhexidine bathing on hospital-acquired infection. *N Engl J Med* 2013; 368:533-42.

DOI of original article: <http://dx.doi.org/10.1016/j.ajic.2012.02.014>

Janine de Melo Rauber, PharmD, Msc, ICP*

Marcelo Carneiro, MD, Msc, ICP

Eliane Carlosso Krummenauer, RN, ICP

Janete Aparecida Alves Machado, RN, ICP

Andréia Rosane de Moura Valim, PharmD, PhD

Infection Control and Hospital Epidemiology Commission

Santa Cruz Hospital, University of Santa Cruz

Santa Cruz do Sul, Rio Grande do Sul, Brazil

* Address correspondence to Janine de Melo Rauber, PharmD, Msc, ICP, Infection Control and Hospital Epidemiology Commission, Santa Cruz Hospital, 96845836 Santa Cruz do Sul, Rio Grande do Sul, Brazil.

E-mail address: janine.farm@gmail.com (J.deM. Rauber)

<http://dx.doi.org/10.1016/j.ajic.2013.05.007>