Chlorhexidine Daily Bathing: Impact on Health Care-Associated Infections Caused by Gram-Negative Bacteria

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BACKGROUND: Health care-associated infections (HAIs) are a major cause of morbidity and mortality in intensive care unit (ICU) patients. Our objective was to evaluate the impact of daily bathing with chlorhexidine gluconate (CHG) on the incidence rates of HAIs, with a focus on their causative bacteria, in a French ICU.

METHODS: From March 2012-May 2013, we enrolled 325 patients with at least 1 episode of suspected sepsis in the ICU, during two 6-month periods. The intervention group was subjected daily to skin cleansing with 2% CHG-impregnated cloths, whereas the control group was bathed daily with soap and water. HAI included bloodstream infections, ventilator-associated pneumonia, and urinary tract infections. Incidence rates corresponded to the number of infections per 1,000 patient days.

RESULTS: Incidence of HAI was significantly decreased in the intervention group (29 vs 56; P = .01). After adjustment for baseline patient characteristics, the increased risk of HAI in the water and soap group was significant (odds ratio = 1.993; 95% confidence interval [CI], 1.132-3.508; P = .017). The incidence rate of clinical cultures positive for gram-negative bacteria, including Enterobacteriaceae and nonfermenting bacilli, decreased in the intervention group (risk ratio = 0.588; 95% CI, 0.346-0.978; P = .04).

CONCLUSIONS: CHG daily cleansing reduced the incidence rate of HAI caused by gram-negative bacteria, highlighting the role of the transient gram-negative bacteria skin colonization in the pathogenesis of HAI.