

To assess a novel silver-plated dressing (SD) for central venous catheters in comparison to chlorhexidine gluconate-impregnated sponge (CHGIS) dressings in preventing central line-associated bloodstream infections (CLABSIs) in adult intensive care unit (ICU) patients” Karlnoski et al (2017).

Abstract:

OBJECTIVE: To assess a novel silver-plated dressing (SD) for central venous catheters in comparison to chlorhexidine gluconate-impregnated sponge (CHGIS) dressings in preventing central line-associated bloodstream infections (CLABSIs) in adult intensive care unit (ICU) patients.

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DESIGN: Retrospective cohort study.

SETTING: Tampa General Hospital, an academic medical tertiary care center.

PATIENTS: All adult ICU patients of an academic medical tertiary care center from January 2009 to December 2010.

MEASUREMENTS AND MAIN RESULTS: A total of 3189 patient records were studied from 7 different ICUs during the 2-year period. Patients received either CHGIS dressings (January 2009-December 2009) or SDs (January 2010-December 2010). Primary outcomes measured were CLABSI rates per 1000 catheter days and ICU length of stay. There were 30 696 catheter days with CHGIS dressings and 31 319 catheter days with SDs. There was a statistically significant decrease in the rate of CLABSI per 1000 catheter days in the SD group, from 2.38 to 1.28 ($P = .001$), with an absolute risk reduction of 1.1. There was a significantly lower incidence in the rate of CLABSI per 1000 catheter days in the SD group (incidence rate ratio = 0.54, 95% confidence interval : 0.36-0.80). The relative risk of CLABSI in the SD group was 0.502 (95% CI: 0.340-0.730; $P < .001$). If SDs are used on all catheters, the decreased rate of CLABSIs observed would calculate to a cost savings of US\$4070 to US\$39 600 per 1000 catheter days. After successful implementation of the SD, we observed significant reductions in CLABSI rates and a sustained reduction in the subsequent 6 years.

CONCLUSION: Use of SDs is associated with a significant decrease in CLABSI rates in adult ICU patients compared to CHGIS dressings, with an estimated cost savings of US\$4070 to US\$39 600 per 1000 catheter days.

Reference:

KarlNoski, R., Abboud, E.C., Thompson, P., Oxner, A.Z., Sinnott, J.T. and Marcet, J.E. (2017) Reduction in Central Line-Associated Bloodstream Infections Correlated With the Introduction



of a Novel Silver-Plated Dressing for Central Venous Catheters and Maintained for 6 Years.
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