



The addition of chlorhexidine dressings to all CVC and arterial lines to an ongoing catheter bundle was associated with a sustained 11-year reduction of all catheter-associated bloodstream infections” Eggimann et al (2020).

Abstract:

BACKGROUND: Prospective randomized controlled studies have demonstrated that addition of chlorhexidine (CHG) dressings reduces the rate of catheter (central venous and arterial)-associated bloodstream infections (CABSIs). However, studies confirming their impact in a real-world setting are lacking.

METHODS: We conducted a real-world data study evaluating the impact of incrementally introducing chlorhexidine dressings (sponge or gel) in addition to an ongoing catheter bundle on the rates of CABSIs, expressed as incidence density rates per 1000 catheter-days measured as part of a surveillance program. Poisson regression models were used to compare infection rates over time. Both dressings were used simultaneously during one of the five study periods.

RESULTS: From 2006 to 2014, 18,286 patients were admitted (91,292 ICU-days and 155,242 catheter-days). We recorded 111 CABSIs. We observed a progressive but significant decrease of CABSIs rates from 1.48 (95% CI 1.09-2.01) without CHG dressings to 0.69 (95% CI 0.43-1.09) and 0.23 (95% CI 0.11-0.48) episodes per 1000 catheter-days when CHG sponge

and CHG gel dressings were used ($p = 0.0007$; $p < 0.001$). A non-significant lower rate of infections occurred with CHG gel compared with CHG sponge dressings. An identical low rate of allergic skin reactions (0.3/1000 device-days) was observed with both types of CHX dressings. Post-study data until 2018 confirmed a sustained decrease of infection rates over 11 years. CONCLUSIONS: The addition of chlorhexidine dressings to all CVC and arterial lines to an ongoing catheter bundle was associated with a sustained 11-year reduction of all catheter-associated bloodstream infections. This large real-world data study further supports the current recommendations for the systematic use of CHG dressings on all catheters of ICU patients.

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Reference:

Eggimann, P., Pagani, J.L., Dupuis-Lozeron, E., Thévenin, M.J., Joseph, C., Revelly, J.P. and Que, Y.A. (2019) Sustained reduction of catheter-associated bloodstream infections with enhancement of catheter bundle by chlorhexidine dressings over 11 years. *Intensive Care Medicine*. 45(6), p.823-833. doi: 10.1007/s00134-019-05617-x.

