Intravenous literature: Timsit, J.F., et al (2009) Chlorhexidine-Impregnated Sponges and Less Frequent Dressing Changes for Prevention of Catheter-Related Infections in Critically Ill Adults A Randomized Controlled Trial. JAMA. 301(12), p.1231-1241.

Click here to view the full article.

Context: Use of a chlorhexidine gluconate-impregnated sponge (CHGIS) in intra-vascular catheter dressings may reduce catheter-related infections (CRIs). Changing catheter dressings every 3 days may be more frequent than necessary.

Objective: To assess superiority of CHGIS dressings regarding the rate of major CRIs (clinical sepsis with or without bloodstream infection) and noninferiority (less than 3% colonization-rate increase) of 7-day vs 3-day dressing changes.

Design, Setting, and Patients: Assessor-blind, 2 x 2 factorial, randomized controlled trial conducted from December 2006 through June 2008 and recruiting patients from 7 intensive care units in 3 university and 2 general hospitals in France. Patients were adults (>18 years) expected to require an arterial catheter, central-vein catheter, or both inserted for 48 hours or longer.

Interventions: Use of CHGIS vs standard dressings (controls). Scheduled change of unsoiled adherent dressings every 3 vs every 7 days, with immediate change of any soiled or leaking dressings.

Main Outcome Measures: Major CRIs for comparison of CHGIS vs control dressings; colonization rate for comparison of 3- vs 7-day dressing changes.

Results: Of 2095 eligible patients, 1636 (3778 catheters, 28 931 catheter-days) could be evaluated. The median duration of catheter insertion was 6 (interquartile range , 4-10) days. There was no interaction between the interventions. Use of CHGIS dressings decreased the rates of major CRIs (10/1953 [0.5%], 0.6 per 1000 catheter-days vs 19/1825 [1.1%], 1.4 per 1000 catheter-days; hazard ratio , 0.39 [95% confidence interval {CI}, 0.17-0.93]; P = .03) and catheter-related bloodstream infections (6/1953 catheters, 0.40 per 1000 catheter-days vs 17/1825 catheters, 1.3 per 1000 catheter-days; HR, 0.24 [95% CI, 0.09-0.65]). Use of CHGIS dressings was not associated with greater resistance of bacteria in skin samples at catheter removal. Severe CHGIS-associated contact dermatitis occurred in 8 patients (5.3 per 1000 catheters). Use of CHGIS dressings prevented 1 major CRI per 117 catheters. Catheter colonization rates were 142 of 1657 catheters (7.8%) in the 3-day group (10.4 per 1000 catheter-days) and 168 of 1828 catheters (8.6%) in the 7-day group (11.0 per 1000 catheter-days), a mean absolute difference of 0.8% (95% CI, âˆ'1.78% to 2.15%) (HR, 0.99; 95% CI, 0.77-1.28), indicating noninferiority of 7-day changes. The median number of dressing changes per catheter was 4 (IQR, 3-6) in the 3-day group and 3 (IQR, 2-5) in the 7-day group (P < .001).

Conclusions: Use of CHGIS dressings with intravascular catheters in the intensive care unit reduced risk of infection even when background infection rates were low. Reducing the frequency of changing unsoiled adherent dressings from every 3 days to every 7 days modestly reduces the total number of dressing changes and appears safe.

Click here to view the full article.

Thank you to our partners for supporting IVTEAM