



Guidewire exchange (GWE) is often used to avoid venipuncture insertion (VPI) at a new site” Coupez et al (2016).

Abstract:

BACKGROUND: Intensive care unit (ICU) patients require dialysis catheters (DCs) for renal replacement therapy (RRT). They carry a high risk of developing end-stage renal disease, and therefore their vascular access must be preserved. Guidewire exchange (GWE) is often used to avoid venipuncture insertion (VPI) at a new site. However, the impact of GWE on infection and dysfunction of DCs in the ICU is unknown. Our aim was to compare the effect of GWE and VPI on DC colonization and dysfunction in ICU patients.

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METHODS: Using data from the ELVIS randomized controlled trial (RCT) (1496 ICU adults requiring DC for RRT or plasma exchange) we performed a matched-cohort analysis. Cases were DCs inserted by GWE (n = 178). They were matched with DCs inserted by VPI. Matching criteria were participating centre, simplified acute physiology score (SAPS) II +/-10, insertion site (jugular or femoral), side for jugular site, and length of ICU stay before DC placement. We used a marginal Cox model to estimate the effect of DC insertion (GWE vs. VPI) on DC colonization and dysfunction.

RESULTS: DC colonization rate was not different between GWE-DCs and VPI-DCs (10 (5.6 %) for both groups) but DC dysfunction was more frequent with GWE-DCs (67 (37.6 %) vs. 28 (15.7 %); hazard ratio (HR), 3.67 (2.07-6.49); $p < 0.01$). Results were similar if analysis was restricted to DCs changed for dysfunction.

CONCLUSIONS: GWE for DCs in ICU patients, compared with VPI did not contribute to DC colonization or infection but was associated with more than twofold increase in DC dysfunction.

TRIAL REGISTRATION: This study is registered with ClinicalTrials.gov, number NCT00563342 . Registered 2 April 2009.

Full Text

Reference:

Coupez, E., Timsit, J.F., Ruckly, S., Schwebel, C., Gruson, D., Canet, E., Klouche, K., Argaud, L., Bohe, J., Garrouste-Orgeas, M., Mariat, C., Vincent, F., Cayot, S., Cointault, O., Lepape, A., Darmon, M., Boyer, A., Azoulay, E., Bouadma, L., Lautrette, A. and Souweine, B. (2016) Guidewire exchange vs new site placement for temporary dialysis catheter insertion in ICU patients: is there a greater risk of colonization or dysfunction? *Critical Care*. 20(1), p.230.

DOI: 10.1186/s13054-016-1402-6

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