



The objective of this study was to compare the initial safety and efficacy of a novel 30% ethanol/4% sodium citrate catheter-locking solution to heparin in a hemodialysis population” Vercaigne et al (2015).

Abstract:

PURPOSE: The objective of this study was to compare the initial safety and efficacy of a novel 30% ethanol/4% sodium citrate catheter-locking solution to heparin in a hemodialysis population.

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METHODS: This was a prospective, randomized, pilot study of 40 hemodialysis patients randomized to a 30% ethanol/4% sodium citrate or heparin 1000 units/mL locking solution. The primary outcome was identification of any serious adverse events over the study duration. Secondary outcomes included the rate per 1000 catheter days for catheter-related bloodstream infections (CRBSI), alteplase use, catheter dysfunction, and catheter removal.

RESULTS: Three serious adverse events were reported as possibly related to the catheter solutions. Only one CRBSI was observed during the study in the heparin arm. The rate of alteplase use was 1.5/1000 catheter days in the heparin arm compared to 2.8/1000 catheter days in the ethanol/citrate arm (rate ratio = 1.85, 90% CI 0.48, 7.07, p value = 0.45), while

the rate of catheter dysfunction was 6.8/1000 catheter days in the heparin arm compared to 1.9/1000 catheter days in the ethanol citrate arm (rate ratio = 0.27, 90% CI 0.10, 0.74, p value = 0.04). Catheter survival to first catheter outcome was longer in the ethanol/citrate group compared to heparin and there were no catheter removals due to bacteremia or thrombosis.

CONCLUSIONS: The ethanol/sodium citrate locking solution was safely used in this study. It appears to prevent CRBSI and may improve catheter survival compared to heparin.

TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT01394458.

Reference:

Vercaigne, L.M., Allan, D.R., Armstrong, S.W., Zacharias, J.M. and Miller, L.M. (2015) An ethanol/sodium citrate locking solution compared to heparin to prevent hemodialysis catheter-related infections: a randomized pilot study. *The Journal of Vascular Access*. December 7th. .

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