Citrate 4% lock solution is equally effective as heparin in maintaining catheter patency in dialysis patients. It may have a favorable effect on prevention of catheter-related infection due to its additional antiseptic properties as compared to heparin” Abdel Azim et al (2018).

Abstract:

BACKGROUND: Limited reports are available on the role of 4% citrate as a locking solution for temporary dialysis catheters. Hence, the aim of this study is to investigate the role of 4% citrate vs. heparin 5,000 µ/mL as a catheter-locking solution in a randomized controlled trial.

MATERIALS AND METHODS: The trial was conducted in Egypt where the use of non-tunneled temporary catheters is prevalent compared to tunneled long-term catheters. The efficacy of catheter-locking solutions was compared regarding observation of rate of catheter dysfunction, low-flow pump, fever as a sign of central-line blood-stream infection (CLBSI), catheter-site infection, thrombosis, local bleeding, and systemic bleeding in each group of the study.

RESULTS: Each group consisted of 105 patients. The number of patients who developed CLBSI in the citrate group was 11 (10.5%) compared to 23 (21.9%) in the heparin group (p < 0.025). The number of patients who developed catheter dysfunction in the citrate group was
similar to those in the heparin group. The incidence of catheter-site infection, thrombosis, and local bleeding in the citrate group was similar to that in the heparin group. CONCLUSION: Citrate 4% lock solution is equally effective as heparin in maintaining catheter patency in dialysis patients. It may have a favorable effect on prevention of catheter-related infection due to its additional antiseptic properties as compared to heparin. Citrate-based locking solutions are a promising alternative to unfractionated heparin as a locking solution for dialysis catheters.

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