The use of low concentration citrate as catheter lock was cost-effective when compared with heparin” Jayaprakash et al (2019).

Abstract:

INTRODUCTION: Unfractionated heparin is the commonly used catheter lock solution in patients with temporary dialysis catheters as hemodialysis access. The effectiveness of trisodium citrate as an alternate catheter lock agent has not been studied in Asian population.

METHODS: In this prospective quasi-experimental study, which included 180 patients with central venous dialysis catheter, patients were randomly allotted to citrate 4.67% and heparin 5000 units/ml arms in the ratio of 2:1. Baseline demographic and dialysis related data, incidence of catheter-related bloodstream infections, and mean catheter days in both the study cohorts were collected and compared. Formal cost analysis for citrate 4.67% use as catheter lock was done.

RESULTS: The mean age of the total study population was 50.49 ± 14.87 years. Sixty-six females (36.7%) and 80 (44.4%) diabetic patients were included in the study. The overall incidence of catheter-related bloodstream infection (CRBSI) was 11.11%. The majority had nontunneled dialysis catheters (95%; n = 114). On analyzing the data of patients with nontunneled catheters, it was found that the total number of catheter days for the citrate and heparin groups were 4,795 and 2,419 days, respectively. The number of CRBSI episodes per
1,000 catheter days for the citrate and heparin groups were 2.711 and 2.89, respectively. Citrate catheter lock cost only 6% of that of heparin lock.

CONCLUSIONS: The incidence of catheter related bloodstream infections was comparable between the heparin and citrate 4.67% lock cohorts. The use of low concentration citrate as catheter lock was cost-effective when compared with heparin.

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