One institution’s experience with use of peripheral i.v. (PIV) catheters for prolonged infusions of 3% sodium chloride injection at rates up to 100 mL/hr is described” Meng et al (2018).

Abstract:

Purpose: One institution’s experience with use of peripheral i.v. (PIV) catheters for prolonged infusions of 3% sodium chloride injection at rates up to 100 mL/hr is described.

Methods: A prospective, observational, 13-month quality assurance project was conducted at an academic medical center to evaluate frequencies of patient and catheter phlebitis among adult inpatients who received both an infusion of 3% sodium chloride injection for a period of ≥4 hours through a dedicated PIV catheter and infusions of routine-care solutions (RCSs) through separate PIV catheters during the same hospital stay.

Results Sixty patients received PIV infusions through a total of 291 catheters during the study period. The majority of patients (78%) received infusions of 3% sodium chloride injection for intracranial hypertension, with 30% receiving such infusions in the intensive care unit. Phlebitis occurred in 28 patients (47%) during infusions of 3% sodium chloride and 26 patients (43%) during RCS infusions (p = 0.19). Catheter phlebitis occurred in 73 catheters (25%), with no significant difference in the frequencies of catheter phlebitis with infusion of 3% sodium chloride versus RCSs (30% [32 of 106 catheters]) versus 22% [41 of 185 catheters]), p = 0.16).

Conclusion: Patient and catheter phlebitis rates were not significantly different with infusions of 3% sodium chloride injection versus RCSs, suggesting that an osmolarity cutoff value of 900 mOsm/L for peripheral infusions of hypertonic saline solutions may not be warranted.

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