

## **The objective of this study was to evaluate the safety of peripheral venous administration of sodium chloride 3%” Dillon et al (2017).**

### Abstract:

**PURPOSE:** Traditionally, sodium chloride 3% has been administered via a central venous line (CVL) because of the perceived risk of infiltration and tissue injury due to its high osmolarity. In clinical practice, sodium chloride 3% is commonly administered through peripheral venous catheters (PVCs) given the necessity of timely administration. However, there is no published data on the safety of administering sodium chloride 3% through PVCs in the adult population. The objective of this study was to evaluate the safety of peripheral venous administration of sodium chloride 3%.

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**MATERIALS AND METHODS:** A retrospective review was conducted in patients who received sodium chloride 3% in the intensive care unit (ICU). Patients were excluded if they had a CVL for the entire duration of the infusion or younger than 18 years at the time of administration. Baseline patient and infusion characteristics were collected. Infusion-related adverse events (IRAEs) were recorded, graded, and interventions required were noted.

**RESULTS:** A total of 66 patients were included in the analysis. The most common indication was hyponatremia and majority of the patients were managed in the neurosurgical ICU. The most common risk factor for IRAEs was the presence of altered mental status. Four patients experienced an IRAE at an event rate of 6.1%. Patients who experienced an IRAE ranged from 38 to 82 years old. The IRAEs were grade 1 in severity, managed conservatively with removal of the PVC, and 2 of the 4 patients had their infusions restarted peripherally. The time to initial IRAE ranged from 2 to 94 hours. For the entire cohort, hospital and ICU length of stay were 8 and 4 days, respectively.

**CONCLUSIONS:** The rate of IRAEs related to the infusion of sodium chloride 3% through PVCs appears to be similar to those reported with other hyperosmotic agents and could be considered for patients who need time-sensitive therapy.



Reference:

Dillon, R.C., Merchan, C., Altshuler, D., Papadopoulos, J. (2017) Incidence of Adverse Events During Peripheral Administration of Sodium Chloride 3. *Journal of Intensive Care Medicine*. January 1st. .

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