Abstract:

Objectives: The quantitative importance of prescribed intravenous (IV) medication to water and sodium intake in routine clinical practice is undocumented, with uncertain influence on clinical outcomes. The present study aimed to redress this issue in surgical patients with gastrointestinal problems.

Methods: The prescription and administration of IV medication and fluids were retrospectively reviewed for water and sodium over 24-h periods in 86 patients in upper and lower gastrointestinal surgical wards in two teaching hospitals. Changes over 5 y were assessed in the same two wards using the same methodology.

Results: Among 90.7% of patients prescribed IV medication, the median intake was 272 mL water/d (range, 40-2687 mL water/d) and 27 mmol sodium/d (range, 2-420 mmol sodium/d), with no significant difference between hospitals or ward type. In 28.2% of patients receiving any infusates, the only source of water and sodium was IV medication, and in 14.3% of patients, the medication provided more sodium than other infusates. Antibiotic agents and paracetamol accounted for 58.3% of water and 52.3% of sodium in IV medication. Historic data of IV medicine-related water and sodium intake did not differ significantly from current data. The literature suggests that clinical outcomes can be modulated by variations in water and sodium intake well within the range provided by IV medication.

Conclusion: IV medicine prescriptions, particularly antibiotic agents and paracetamol, can make substantial and clinically relevant contributions to daily water and sodium intake. These contributions have persisted over time and should be considered during routine assessments of fluid balance and interventions aiming to improve clinical outcomes.

Reference: