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Assessing Real-World Spot Urine Sodium Values During Continuous Intravenous Infusion of Loop Diuretics

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Assessing real-world spot urine sodium values during continuous intravenous infusion of loop diuretics



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Introduction

- The use of spot urine sodium (UNa) >60 mmol/L as an objective measure to guide diuretic therapy in patients receiving bolus intravenous loop diuretics has been associated with increased weight loss and decreased length of stay.
- There is limited published data evaluating UNa use in patients receiving continuous intravenous loop diuretic infusions.

Purpose

- Primary outcome:** To characterize spot UNa levels in patients receiving a continuous infusion of loop diuretics
- Secondary outcomes:** Urine output 24 hours after UNa level, total weight loss, and length of stay

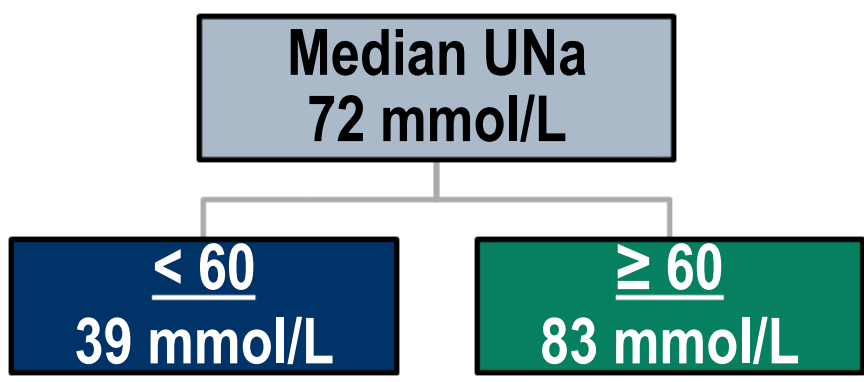
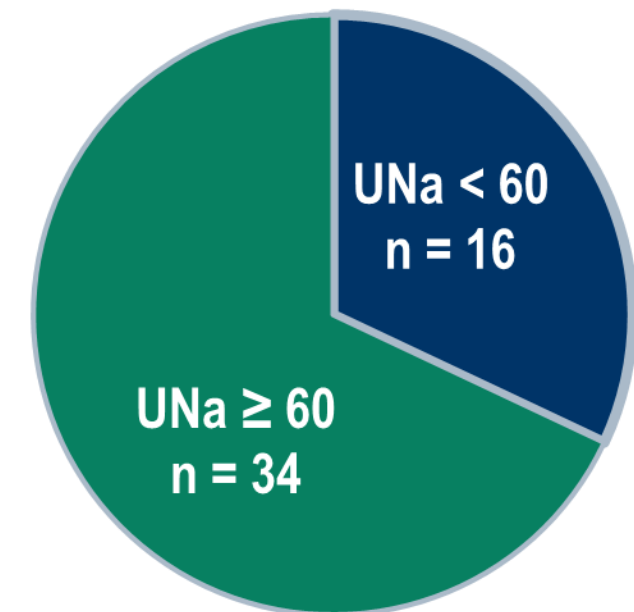
Methods

- IRB-approved retrospective chart review from 06/01/2020 – 08/31/2021
- Inclusion Criteria:** Spot UNa level drawn during a continuous infusion of loop diuretics
- Exclusion Criteria:** Renal replacement therapy or hemodialysis during or prior to hospitalization

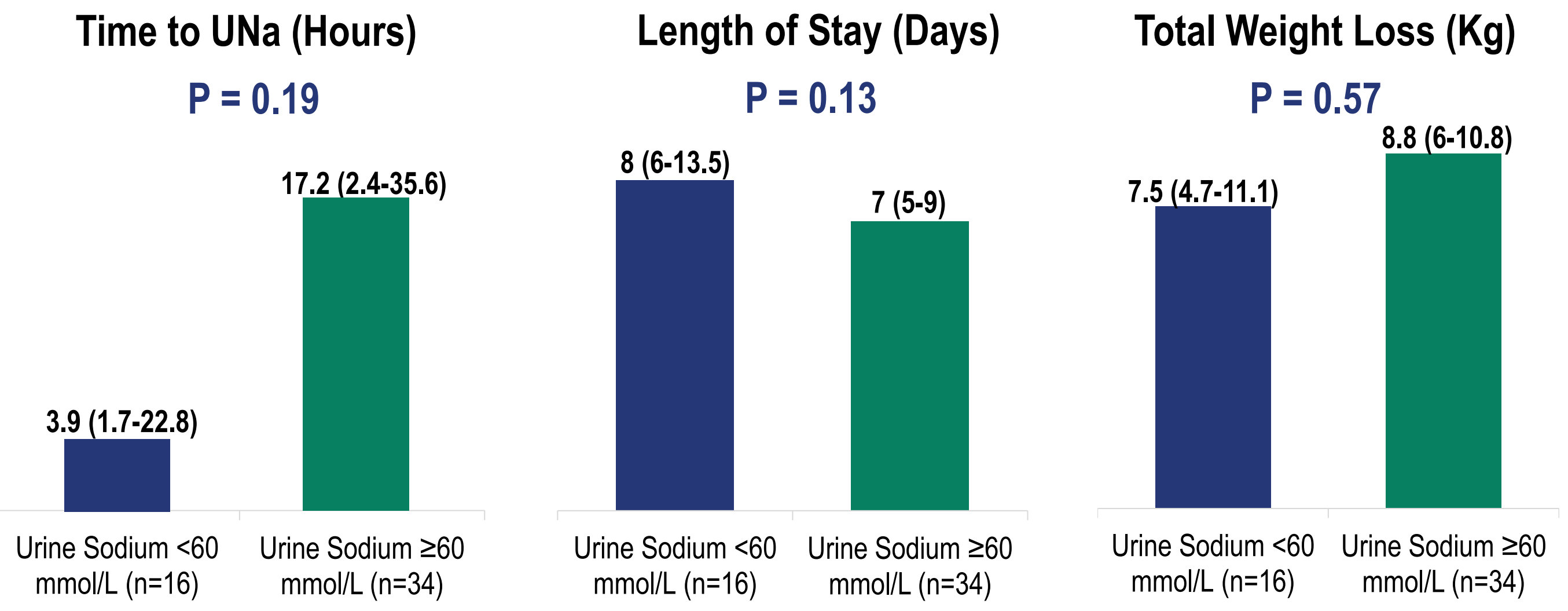
Results



Spot UNa Breakdown



	All Patients (n=50)	UNa < 60 mmol/L (n=16)	UNa ≥ 60 mmol/L (n=34)	P-value
Age (years) (mean ± SD)	72 ± 11.9	74 ± 10.8	71 ± 12.7	0.39
Male	36 (72%)	12 (75%)	24 (71%)	0.75
EF (%) (median, IQR)	40 (20-55)	45 (33.8-55)	30 (15-30)	0.18
Spot UNa (mmol/L) (median, IQR)	72 (56-90)	39 (22.5-46.5)	83 (71.2-92)	<0.001
Diuretic Dose Increased Within 24 hr of Level	10 (20%)	8 (50%)	2 (6%)	<0.001
Urine Output 24 hr after level (L) (median, IQR)	3 (2-.4.3)	2.85 (2-4.6)	3 (2-4.2)	0.84



Evaluation

- UNa <60 mmol/L was associated with a numerically longer length of stay (8 days vs. 7 days) and less weight loss at discharge (1.3 kg).
- Median time to spot UNa level after start of continuous infusion was 14.9 hours and only 50% of doses in low UNa group were increased.

Conclusion

- Spot UNa levels during continuous infusions of loop diuretics were similar to levels expected with bolus therapy, with the majority ≥60 mmol/L.**
- Further research is required to establish association between lower UNa and less favorable outcomes.**

Reference

Singh D, Shrestha K, Testani JM, et al. Insufficient natriuretic response to continuous intravenous furosemide is associated with poor long-term outcomes in acute decompensated heart failure. *J Card Fail.* 2014;20(6):392-399.

Disclosure

Authors of this presentation disclose the following relationships with commercial interests related to the subject of this poster:
Rachel Propst: nothing to disclose
Michael Akers: nothing to disclose