Title:
Dietary Sodium Intake is Predicted By Anti-Hypertensive Medication Regimen in Heart Failure Patients

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Rising Stars of Research and Scholarship Invited Student Poster Session 1

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References:
de Souza, J. T., Matsubara, L. S., Menani, J. V., Matsubara, B. B., Johnson, A. K., & De Gobbi, J. I. (2012). Higher salt preference in heart failure patients. Appetite, 58(1), 418-423. doi:10.1016/j.appet.2011.09.021 Wessler, J. D., Hummel, S. L., & Maurer, M. S. (2014). Dietary interventions for heart failure in older adults: re-emergence of the hedonic shift. Prog Cardiovasc Dis, 57(2), 160-167. doi:10.1016/j.pcad.2014.03.007

Abstract Summary:
At the end of this presentation, the learner will be able to identify anti-hypertensive medications that affect sodium taste and consumption.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to identify anti-hypertensive medications that alter salt taste and are associated with increased dietary salt consumption.	Associations of anti-hypertensive medications and altered salt taste perception will be discussed.
The learner will be able to discuss implications of anti-hypertensive regimen and salt taste perception for heart failure patients' adherence to low sodium diet recommendations	Associations of anti-hypertensive medication regimens and salt taste perception will be described as well as implications for nursing interventions to improve heart failure patients' adherence to low sodium dietary restrictions.

Abstract Text:

Background: Adherence to low-sodium diet is crucial to heart failure (HF) self-management. Angiotensin converting enzyme inhibitors (ACEi), commonly prescribed to HF patients, decrease salt taste perception and patients taking ACEi may increase dietary sodium intake in response to reduced perception. We hypothesize that HF patients on ACEi will have significantly higher sodium intake, indicated by dietary sodium density.

Objective: To examine whether having a prescribed ACEi was associated with increased dietary sodium density.

Methods: This was a secondary analysis of baseline data from HF patients in an observational longitudinal study. Dietary sodium intake measured from 4-day food diaries was analyzed with NDS-R software (NRCC, Minneapolis, MN). To control for differences in dietary sodium due to differences in amount of food consumed, dietary sodium density was calculated as 4-day averaged daily sodium intake divided by averaged kilocalories (kcal) consumed. Prescribed medications were ascertained through medical chart review. Patients were categorized into 2 groups: those prescribed and those not prescribed ACEi. We used t-tests to compare sodium intake between ACEi groups. Linear regression was conducted to determine whether prescribed ACEi independently predicted sodium density controlling for age, gender, New York Heart Association (NYHA) Class, and prescribed diuretics and beta blockers.

Results: There were 262 HF patients (age 61 ± 12, 68% male, 44% NYHA Class III/IV); 76% were prescribed a diuretic, 89% a beta blocker, and 68% an ACEi. Patients prescribed ACEi consumed 13% more sodium per kcal than those not prescribed ACEi (1.8 mg Na/kcal vs. 1.6 mg Na/kcal, $p = .001$). Prescribed ACEi independently predicted dietary sodium density (beta=.207, p=.002). No confounding factors predicted density.

Conclusions: The results support the hypothesis that patients on an ACEi have higher sodium intake. Assessing medication regimen is important for planning interventions to enhance HF patients' adherence to dietary sodium restriction. Research is needed to explore HF patients' salt taste perception to better understand associations between medication regimen and sodium intake.