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## Heart Failure and Cardiomyopathies

### PLASMA LEVELS OF NITRIC OXIDE METABOLITES ARE LOWER IN HFPEF SUBJECTS COMPARED TO HFREF AND HYPERTENSIVES

Poster Contributions

Poster Hall B1

Saturday, March 14, 2015, 10:00 a.m.-10:45 a.m.

Session Title: Many Faces of Heart Failure

Abstract Category: 14. Heart Failure and Cardiomyopathies: Clinical

Presentation Number: 1113-208

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**Background:** Stable plasma nitric oxide metabolites (NO<sub>x</sub>), predominantly composed of nitrate, are markers of endogenous nitric oxide (NO) production, NO utilization, and dietary intake and may be indicators of vascular health.

**Methods:** We enrolled subjects undergoing a clinically-indicated cardiac MRI. Plasma NO<sub>x</sub> levels were determined after reduction to NO via the reaction with vanadium(III)/hydrochloric acid. NO was quantified by its gas phase chemiluminescence reaction with ozone. Levels were quantified using a standard curve generated with nitrate. Due to skewed distributions, NO<sub>x</sub> levels were log-transformed. ANOVA models were created comparing NO<sub>x</sub> levels between groups, with adjustment for multiple comparisons.

**Results:** Subjects with HFpEF had lower NO<sub>x</sub> levels than both HFREF and HTN subjects.

	n	Geometric Mean NO <sub>x</sub> (95% CI)	Bonferroni-Corrected Comparison		
HFREF	28	13.41 (9.34-19.25)		HFREF	HFpEF
HTN	75	11.02 (9.12-13.31)	HFpEF	0.008	
HFpEF	47	7.07 (5.37-9.31)	HTN	0.95	0.02
Overall $P=0.004$					

**Conclusion:** HFpEF subjects had significantly lower NO<sub>x</sub> levels, suggesting greater endothelial dysfunction, enhanced clearance, or deficient dietary ingestion. Low plasma NO<sub>x</sub> may contribute to the impaired vasodilatory reserve in HFpEF, since inorganic nitrate/nitrite are mediators of hypoxic vasodilation. Whether nitrate supplementation is beneficial in HFpEF should be investigated in future trials.