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Resting Sympathetic/Parasympathetic Imbalance Effects Outcomes in Geriatric Heart Failure Patients

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Background: Youthful sympathetic (SNS) levels tend to be higher than parasympathetic (PSNS) levels. Healthy geriatric PSNS levels are slightly higher than SNS levels. We investigated the relationship between resting autonomic (ANS) levels in geriatrics with and without heart failure (HF). **Methods:** Autonomic profiling of 141 consecutive geriatrics (24 Diabetics; 75 Females, 81 HF, HF age=75.2±4.9, nonHF age=82.7±6.5) from ambulatory clinics was performed using the ANX-3.0 (Ansar, Inc., Philadelphia, PA). ANS profiling was based on responses to resting baseline and periods of paced breathing, short Valsalva maneuvers, and quick change to quiet standing. **Results:** Non-HF patients have more power in both ANS branches, and on average have PSNS levels greater than their SNS levels, suggesting a sympathovagal balance (SB=SNS/PSNS) of less than 1.0. Contrary to this, the non-HF's resulting SB is greater than 1.0. The non-HF patients' average SB is significantly less than the Ratio for the HF patients'. The non-HF patients' average age was 7.5 years older than the HF patients. **Discussion:** Excess PSNS activity can cause fatigue and can be induced by too much SNS blockade. Too little SNS blockade is associated with higher risk of mortality and lower PSNS (and higher SNS) levels. Since SNS blockade is designed to protect the heart, more PSNS activity may be an indication. **Conclusion:** Higher PSNS levels as indicated by lower SB may be associated with improved outcomes and longevity in geriatric patients.

Table 1: Autonomic Results for HF and non-HF Patients

	SNS	PSNS	SB
Heart Failure	0.12±0.11	0.06±0.05	2.03±1.71
Non-Heart Failure	0.78±0.51	0.98±0.70	1.44±1.22