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Abstract #750

Early Autonomic Dysfunction Is Associated With Secondary Hypertension in HIV/AIDS Patients

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Introduction. Chronic disease, including HIV/AIDS leads to early autonomic dysfunction (AD), defined as abnormal autonomic or sympathovagal balance (SB, normal = $0.4 < SB < 3.0$) prior to autonomic neuropathy. AD is associated with greater morbidity (gastrointestinal upset, urogenital disorders, dizziness and lightheadedness, and secondary hypertension) and mortality. Early intervention restores balance between parasympathetics (P) and sympathetics (S) and reduces co-morbidities. We hypothesize that HIV/AIDS induced autonomic imbalance leads to secondary hypertension. **Methods.** Autonomic profiling of 232 consecutive patients (47 female) was performed with ANSAR (Philadelphia, PA) at an ambulatory clinic in Missouri. HR variability and respiratory activity data were collected concurrently, and analyzed independently and simultaneously to compute P&S activity. Patients were administered standard autonomic testing, including paced breathing (deep breathing or DB) and a series of short Valsalva maneuvers (V). BP was recorded during each phase of the clinical exam. The DB&V results were analyzed and presented here against 234 aged-matched normals from our nation-wide database.. **Results.** The data shown in the Figures have been normalized at age 25 to 100 bpm². Weak DB&V responses are early indicators of AD. From Fig. 1., the P response to DB decreases (age 25) about a decade earlier than the S response to V decreases (age 35). The resulting discrepancy results in a sympathetic excess (SE, see shaded area in Fig. 1). By age 45, the patients' autonomic levels are below normals'. SE can be associated with (pre-)hypertension and hypertension as seen in Fig. 2. By age 35 the average BP was elevated by 20.3/1.5 mmHg to 146.4/77.6 and by age 45 resting BP was up to 151.9/77.9, therapy at this time normalizes BP by age 55 (137.0/75.5). As seen in Fig. 2, the patients' BPs are higher than normals'. **Conclusions.** Early AD, in this case SE, is associated with hypertension.

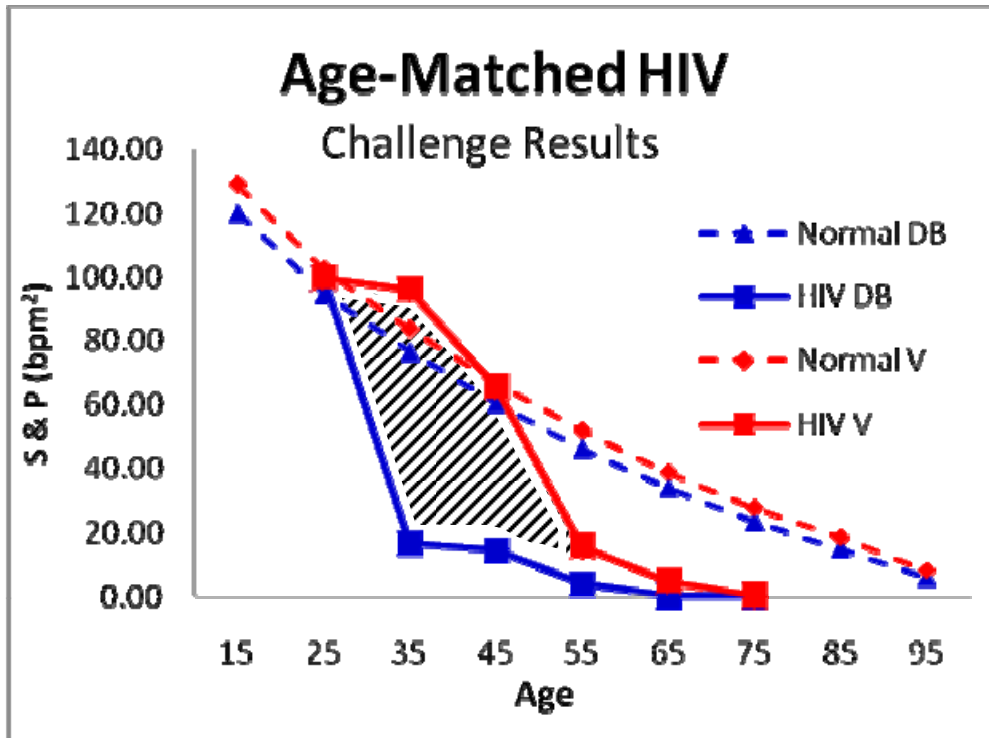


Figure 1

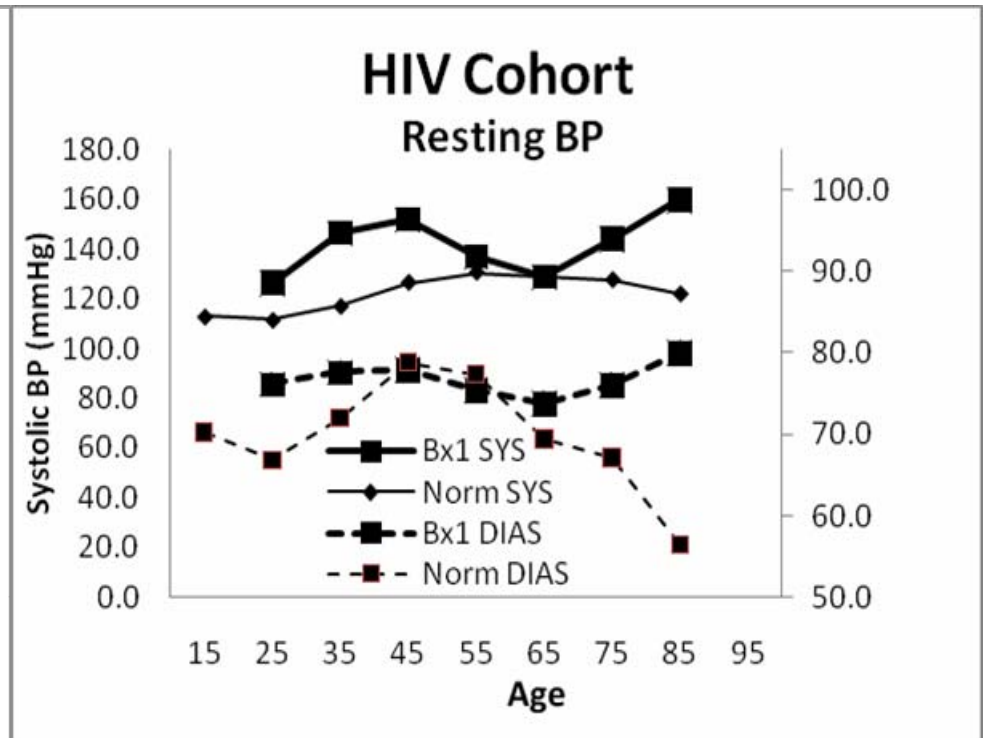


Figure 2