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Rates of autonomic dysfunction in HIV patients receiving antiretroviral therapy

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We read the work by Robinson-Papp et al. with interest. The authors report that 61 % of participants had autonomic dysfunction (AD) as defined by a composite autonomic severity score (CASS) >3, with peripheral nerve dysfunction being the strongest predictor, affecting 90 % of participants who have HIV-associated distal symmetric polyneuropathy. Eighty-six percent of individuals with AD were symptomatic on survey of autonomic symptoms (SAS).

The Composite Autonomic Scoring Scale (CASS) is a validated scale designed to quantify autonomic failure. CASS is derived from three areas of autonomic function: adrenergic, cardiovagal, and sudomotor (1996; Weimer 2010; Low et al. 2008). A CASS of <3 indicates mild autonomic failure, a score of 4–6 indicates moderate failure, and a score of >6 is indicative of severe autonomic failure (Low et al. 2008). CASS has been correlated with cardiovascular disease events and mortality (Gehrking et al. 2013). A CASS of 4–6 has been associated with orthostatic hypotension, abnormal sweating, and gastrointestinal

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abnormalities and is usually seen in autonomic failure (Low 1993). The authors report a median CASS of 3, suggesting that 50 % of subjects had a CASS of >3. The study reported on the CASS upper range of 6. A CASS this high would implicate major clinical outcomes and mortality which frankly have not been seen in large epidemiologic studies. The rates and severity of AD may have been overestimated in this study.

In a convenience sample of 48 virologically suppressed HIV-infected individuals with and without polyneuropathy, we reported on a median CASS of 1 (IQR 1), and 40 % of subjects were symptomatic. We utilized the Composite Autonomic Symptom Scale to measure autonomic symptoms, a better instrument to detect and quantitate AD compared to the SAS used in the study. We wonder whether using the Q-sweat test for evaluating the sudomotor response used in the study may have overestimated AD. The qualitative sudomotor axon reflex test (QSART) has been a routine postganglionic sudomotor function test of the Mayo Clinic since 1983. The Q-sweat test is a commercial quantitative sweat measurement test modeled on QSART, but can overestimate sudomotor dysfunction (Sletten et al. 2010).

In the era of combination antiretroviral therapy (cART), dramatic improvements in morbidity and mortality have been witnessed. However, autonomic symptoms such as light-headedness, dry mouth and eyes, cold feet, and constipation, as noted in the study and ours, have become common complaints among HIV-infected patients. AD has been correlated with HIV disease progression (Becker et al. 1997; Chow et al. 2011). Individuals with AIDS receiving cART have better measures of autonomic function compared to individuals that are not on cART (Correia et al. 2006). Forty-two percent of the study participants had a detectable viral load. Early and lifelong suppression of HIV infection and avoidance of medications that cause peripheral neuropathy and metabolic disorders needs to be considered for HIV-infected individuals (Askgaard et al. 2011).

AD is a common condition. The rate and severity of autonomic dysfunction may not appear as elevated as suggested by the authors. Nonetheless, we commend Robinson-Papp et al. for bringing attention to AD which we agree is an underappreciated condition that is becoming increasingly common among our aging HIV-infected patients. Further investigation is needed to explain the prevalence and nature of AD, and its potential treatment.

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