

HIV & Accelerated Aging?, what should we call it?

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- 50% of HIV+ will be >50 soon:

?damaging controversy: should we call it accelerated aging; clearly define discussions

- Early onset of & death due to comorbidities
- Immunosenescence
- Activation/inflammation, HIV reservoirs
- Accelerated Frailty in MACS: but what about confounders
- Accelerated Vascular aging (25 yrs older): vessel damage & dysfunction throughout the system found- endothelial dysfunction, aortic stiffness
- Bone disease, neuropathy/ impaired gait, nervous system: HIV disrupts bone metabolism, ARTs as well
- CROI 2011: HIV gets into brain early, shortly does damage & unfolds
- Neurologic function & the brain (CHARTER 52% neuro cognitive deficit)

Comorbidities

- Heart disease
- Diabetes
- Kidney function
- Liver
- Hypertension
- Lipoatrophy & visceral fat accumulation contribute
- Cancers
- Microbial gut translocation
- Impact of Muscle wasting in aging HIV+
- Confounders: Mental stress, sleeping disorders, history of substance abuse, cigarette smoking, poor diet/lack of exercise
- ARTs/drug tox, interruptions
- Starting HAART early, interventions, higher CD4 counts
- Depression/isolation/housing/mobility/aging services/financial concerns

"by 2015 more than 50% of HIV+ will be >50 yrs old"

- individuals 50 years of age and older accounted for approximately 10 percent of all new HIV infections in the United States in 2006.¹
- **approximately one quarter of HIV-infected adults in the United States in 2007 were at least 50 years old.**²
- Additionally, in 2005, there were racial/ethnic disparities in HIV/AIDS diagnoses among persons 50 years of age and older. **The rates of HIV/AIDS among persons 50 and older were 12 times as high among blacks (51.7/100,000) and 5 times as high among Hispanics**

OAR Aging Panel Community Outcomes

- Collaboration between Institutes: NIDDK, NIAMS, and NHLBI
- Exercise research: impact vigorous exercise exhaustion in exercise or fatigue, short-term and recovery to possible long-term benefit.
- Interventions: can this committee have a special sub-committee or emphasis somehow to focus on **therapeutic interventions** on inflammation, activation, senescence. Perhaps our most important concern for aging patients !!!!!
- Does HAART contribute; which ARTs may be more friendly for older patients
- Starting HAART early, does it help?
- Better understand & characterize **immunosenescence** & its differential affects? For example, when does it emerge: within 6 months of starting therapy? Is it different for certain individuals, Jain/Deeks study; differences in senescence & its outcomes depending on age of infection, e.g. infected at perinatally infected child, 32 yrs old, 45 yrs old, 55 yrs old. Does **HAART at acute infection, at 1, 3 or 5 yrs post-infection** alter outcomes related to senescence, activation, inflammation, or developing comorbid conditions

Community Outcomes

- **Neurologic decline:** continuation of CHARTER studies with a focus on perinatally infected children & aging adults & expand evaluation tools used in CHARTER to other studies & cohorts to get a large enough population to tease out incidence & prevalence (properly designed studies)
- Identify more subtle neurocognitive effects (other than neuropathy, dementia) in younger and older aging patients to try to sort out confounders & try to characterize which may be due to HIV
- Study, confirm & **develop screening biomarkers for comorbid diseases** so we can identify who at early times may later on be at heightened risk for comorbidities later on: bone, heart, kidney, brain, neuro, diabetes, frailty and study intervention strategies to see if we can for example successfully intervene perhaps by changing regimens, better measures are needed beyond the standard neurocognitive batteries currently in use, develop targeted interventions

Outcomes

- Support for older patients: services
- Which **cohorts** to do aging research/NIH research: an evaluation of what cohorts are available for study, whether they can be helpful for researching aging-related issues, whether they have appropriate HIV-negative controls and/or the ability to recruit them, and appropriate funding; **Cohorts of perinatally infected children** would be part of that too
- the **translational science center** that is being put together at NIH, and whether aging-related research (both in HIV positive and negative people) is on their radar screen at all. Is planning for that center far enough along for specifics to be discussed
- Ongoing Community involvement
- standardized measure for **immunosenescence (IS)** and generating clinical outcome data around IS

Outcomes

- **Disease prevention screening guidelines:** FRAX, Framingham, A1C3 etc. to understand how to use them in HIV or to identify other similar like guidelines. Develop such guidelines in HIV, study & integrate them into care. For example the D.A.D. developed their own CVD risk tool, an HIV-specific Framingham of sorts & found very little difference in HIV. For example, what about measuring coronary calcium, & imaging techniques to identify subclinical CVD, etc? **DHHS HIV Treatment Guidelines Panel** should incorporate discussions of this, better address all these concerns particularly since over 50% of HIV+ in US will be >50 by 2015.