Immune Senescence-
Panel discussion

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Immune Senescence

Describes a state of profound age-associated changes in the immune system resulting in the overall decline of antigen-specific immunity.
Immune senescence- Innate and adaptive

Exhausted adaptive immune system due to chronic immune activation, cell turnover results in accumulation of antigen experienced functionally impaired end stage senescent cells gradually leading to immune incompetence

Is characterized by loss of naïve cells, and increase in effectors cells with low proliferative capacity, restricted T cell repertoire and shorter telomeres

Innate immune activation likely contributes to the pro-inflammatory milieu and Inflamma-ageing

(Desai, S, 3rd Int HIV & Aging workshop 2012 Baltimore)
Activation of innate immune cells by circulating antigens contributes to inflammation.

IL-10
TGF-β

mDC
IFN-α
TNF-α

IL-6
IL-1b

T reg

Immune activation
Cell Turnover
Senescence

Inflammation

(Desai, S, 3rd Int HIV & Aging workshop 2012 Baltimore)
AGING with HIV

- Immune senescence occurs in HIV infected individuals and is associated with co-morbidities (Merino, A JI, 2011, Kaplan JID, 2011)


- Is inflammation a cause or consequence of immune senescence

Given the growing evidence, Aging with HIV disease in the post HAART era with successful viral control can best described “Acquired Immune Inflammatory Syndrome”™

(Desai, S, 3rd Int HIV & Aging workshop 2012 Baltimore)