HIV and Aging

JASON TOKUMOTO, MD
ASSISTANT CLINICAL PROFESSOR OF MEDICINE
UNIVERSITY OF CALIFORNIA AT SAN FRANCISCO
HIV / AIDS

- HIV (Human Immunodeficiency Virus): virus that causes AIDS.
- AIDS (Acquired Immunodeficiency Syndrome) is the term for HIV-infected individuals who have advanced disease as defined by:
  
a. CD4 cell count less than 200.
  b. Opportunistic infection.
Important Dates in HIV History-100 points

- September 18, 2009
This famous writer said:

“Forty is the old age of youth, FIFTY the youth of old age.”
HIV and Aging in the USA

- Currently, 25% of the estimated 1,000,000 people infected with HIV (250,000) are 50 years old.
- Currently, 15% of the new 56,000 individuals who are diagnosed with HIV each year are 50 years old.
- By 2015, 50% of all HIV infected individuals will be 50 years old.
53% of the 9,734 cases of HIV/AIDS in San Francisco is > 50 years old.
Why the Increase?

- The number of individuals infected with HIV who are $\geq 50$ years old is increasing due to:
  - Highly active antiretroviral therapy has made it possible for many HIV-infected individuals to live longer.
  - Diagnosing more new HIV infections in older individuals.
Morbitidy and Mortality-300 points

- These individuals when given the diagnosis of being HIV infected, tend to progress more rapidly to AIDS and tend to have shorter survival rates when compared to other groups diagnosed with HIV.
Diagnosing HIV in the older population

- Older individuals are more likely than younger individuals to present late for HIV diagnosis, i.e. by the time an older individual is tested positive for HIV, they usually have advanced disease.
- In fact, diagnosis of HIV in older patients occurs after the patient presents with an opportunistic infection.
Diagnosing HIV in the older population

- Older HIV patients tend to progress more rapidly to AIDS.
- Older HIV patients tend to have shorter survival rates.
Reasons for not considering HIV in older individuals

- Older individuals may not consider themselves to be at high risk for HIV.
- Health care providers may not consider HIV in older individuals.
The group describes themselves as:

“Over 50, Still sexy, Still Smart.”
### Reasons for not considering HIV in older individuals

- **False belief that older individuals are not sexually active.**
- **Many clinicians do not ask older patients about their sexual activity.**
  - 80% of older individuals are sexually active.
  - Only 38% of older men and 22% of older women reported that they discussed their sex life with their provider.
Reasons for not considering HIV in older individuals

- False belief that older individuals do not engage in injection drug use.
  - 16% of older HIV-infected patients acquire HIV through injection drug use.
Reasons for not considering HIV in older individuals

- Some signs and symptoms of HIV can mimic those of normal aging so the provider may not have HIV in mind as the cause of the signs and symptoms.
  - Fatigue
  - Weight loss
  - Mental confusion
Reasons for not considering HIV in older individuals

- The latest CDC guidelines for HIV testing covers the age from 13 year old to 64 years old.
### Newly diagnosed older HIV patients-Linkage and Retention

- **Immediate linkage to care** because there is a survival advantage with regular HIV care.
- **Equally important** is retention in care.
  - Case management
  - Transportation
  - Mental health services
  - Drug treatment programs
Terminology-500 points

- Discrimination based on negative attitudes toward aging and older people.
Management issues in the older HIV patient

- Ageism
- Multi-morbidity syndrome (not co-morbidity)
- Incorporating principals of geriatric medicine
- Antiretroviral therapy
- Frailty and HIV
  - Does HIV speed up the aging process?
Ageism

- Discrimination based on negative attitudes towards aging and older people.
Multi-morbidity syndrome

- Several serious health conditions that cannot be cured (e.g. HIV infection, hypertension, diabetes mellitus, malignancy) and engender functional and/or cognitive debility.
Multi-morbidity

- **Cardiovascular risk reduction**
  - Smoking cessation very critical intervention.
  - High cholesterol/triglyceride reduction.

- **Diabetes**
  - Avoid excess weight gain.
  - Diabetes screening especially after starting antiretroviral therapy.
Multimorbidity

- **Kidney function**
  - Regular monitoring.
  - If kidney function declining, need to assess for all possible causes and consultation with a nephrologist is appropriate.

- **Hypertension**
  - Should treat aggressively (decrease salt intake, weight, exercise, medications) because hypertension can accelerate the progression of cardiovascular disease, kidney disease, diabetes, and increase the risk for stroke.
Multimorbidity

- **Cancer screening**
  - Colorectal
  - Cervical
  - Prostate

- **Osteoporosis**
  - Due to aging, HIV, antiretroviral medications
  - Screening for and aggressive treatment
  - Screen for vitamin D deficiency
Sexual health
- Screen for high risk behavior
- STD screening
- When taking a sexual history avoid judgemental attitudes and ask the patient for permission to discuss sexual function
- Erectile dysfunction medications or topical estrogen for vaginal dryness can enhance sexual satisfaction but must be used with caution and should be linked to specific educational efforts on safe sexual practices
Multimorbidity

- **Neuro-cognitive changes**
  - Increasing recognition of an overlap between HIV-associated neurocognitive disorder (HAND) and Alzheimer’s disease

- **Psychiatric Illness**
  - Screen for depression and anxiety
  - HIV positive older patients are 5 times more likely to have depression versus HIV negative older patients

- **Substance abuse**
  - No level of alcohol intake is known to be of benefit among HIV infected individuals
Multimorbidity

• **Psychosocial Issues**
  o HIV positive older individuals often have smaller and lower functioning social networks than HIV negative older individuals.
  o In one study conducted in New York, 70% of older HIV positive individuals lived alone which was twice the rate of older HIV negative individuals.
Antiretroviral therapy

- The recommendations for initiating HIV therapy in older patients is the same as those for the general HIV-infected adult population.
- However, it is important to consider pre-existing multimorbidities when customizing a regimen.
Antiretroviral therapy

- Generally have good immunological and virological response.
- Because older individuals are generally diagnosed with advanced disease, their CD4 cell count never achieves levels to that of younger patients.
Antiretroviral therapy

- Adherence
- Polypharmacy
- Side effects/drug tolerability
Is it aging (A), HIV (H), or antiretroviral therapy (AT)?

<table>
<thead>
<tr>
<th>Condition</th>
<th>A</th>
<th>H</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurocognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High cholesterol/triglyceride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose intolerance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteoporosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What all of the following have in common: weakness, fatigue/exhaustion, low physical activity, slowed motor performance, weight loss, and DEATH.
Frailty—an important geriatric syndrome

- Weakness
- Fatigue/Exhaustion
- Low physical activity
- Slowed motor performance
- Weight loss (loss of muscle mass and bone mass)

MOST SERIOUS OUTCOME OF FRAILTY IS DEATH
Frailty and HIV

- Physiological parallels between frailty and HIV.
- Clinical parallels between frailty and HIV.
Physiological parallels between frailty and HIV

- Loss of repair capability
- DNA damage
- Sarcopenia (decrease muscle mass)
- Osteopenia (decrease bone mass)
- Immune function changes (loss of T cells)
Clinical parallels between frailty and HIV

- Weakness
- Fatigue
- Exhaustion
- Weight loss
- Slowed motor performance
- Poor physical activity
There is chronic systemic inflammation (constant healing and destruction of cells and tissue) in both frailty and HIV.

- Cytomegalovirus (CMV)
Both frailty and HIV have elevated levels of the proinflammatory cytokine IL-6.
Does HIV speed up the appearance of clinical frailty?

- Frailty much more common in HIV-positive males.

- Frailty prevalence for a 55 year-old male HIV-positive for < 4 years is equal to an HIV-negative male who is > 65 year-old.
Take home messages

- Older individuals are at risk for HIV.
- Therefore, have a low threshold for testing an older individual for HIV.
- When seeing an older individual, always keep HIV on your radar especially if there is a history of high risk behaviour and/or signs/symptoms that could be due to HIV.
- There is a need to target HIV testing and prevention messages to older individuals.
- There is a need to educate older individuals about HIV.
Take home messages

- Older individuals with HIV/AIDS have 3 risk factors for multimorbidities: HIV, aging, antiretroviral therapy.
- The presence and/or risk for these multimorbidities has implications in the overall care of these older patients.
- HIV may speed up the aging process due to chronic inflammation.