Introduction to HIV and Aging

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Objectives

• Know the demographics of aging and HIV
• Identify the similarities between aging and HIV
• Understand role of co-morbidities and behaviors
• Think about how agencies providing services to both our HIV positive clients and our elderly clients will need to plan for the future
Older Persons and HIV Infection: Three Groups

• Those who are newly infected or not diagnosed
  – Health care providers and patients themselves may not consider the diagnosis because not thinking elderly have risk factors
  – Symptoms of aging often overlap with those of HIV

• Those who are at risk of catching HIV
  – Prevention messages have not been aimed at the “elderly”

• Those who have survived with HIV and are now entering “old age” – the rest of my talk will concentrate on this group

The needs of these three groups may not be the same

CA Emlet: US Senate Testimony (2005)

Mortality and HAART Over Time

HAART, highly active antiretroviral therapy.
Epidemiology - Nationally

- Increasing numbers of individuals surviving with HIV and AIDS
- Of newly diagnosed persons in the US, 15.3% were ≥50 years of age*
- In 2005, persons over age 50 were:
  - 24% of persons living with HIV/AIDS (increased from 17% in 2001)
  - 19% of all AIDS diagnoses
  - 29% of persons living with AIDS
  - 35% of all deaths of persons with AIDS
- Heterosexual transmission most common risk factor

* Data based on reporting from 33 US states


Steady increase in the Percentage of HIV Positive New Yorkers over Age 50

- Existing Cases Age 50-59
- Existing Cases Age > 60
Providing Care for the Older HIV Positive Patient is Going to be Very Complicated

- Social and Psychological Factors
  - Patients are often isolated and tend to live alone
  - Stigma
  - Mental health and behavioral health
    - Higher rates of depression
    - Substance use - alcohol and drugs

- Physical and Medical Challenges
  - Aging
  - Co-morbidities
  - Complicated medication regimens

- Services and Support
  - Difficulties of accessing services geared to the non HIV
  - Homophobia and HIV phobia among elderly service providers and individuals

IDUs have the highest mortality rate among all groups (165/10,000 PWA).

Care of the HIV Positive Patient is Complex

- Aging and Frailty
- Comorbid Diseases
- Behaviours and Life Style
- Treatment for HIV and Other Diseases
- Economics and Health Disparities
January 6, 2008

AIDS Patients Face Downside of Living Longer

By JANE GROSS

Similarities Between HIV and Aging

- Loss of bone and muscle mass
- Weight loss
- Increased pain
- Memory loss and decreased cognition
- Decreased immune function (immunosenescence)
- Increased risk of cancer – lung, breast, colon, prostate
- Increased vascular disease
- Increased hypertension
- Increased diabetes
- Increased hypogonadism - both male and female
- Frailty
What is “Frailty”?

- Clinical syndrome in the elderly
- Patient is frail with any three of the following:
  - Fatigue and weakness
  - Exhaustion and poor endurance
  - Slowed walking speed
  - Low physical activity level
  - Physical shrinking with loss of weight and muscle mass

- Frail patients are at higher risk for the following
  - Poor outcomes and higher mortality rates
  - Slowest recovery time
  - More iatrogenic complications

Frailty and HIV Disease: MACS Cohort Study

- Study of HIV negative and HIV positive gay men
  - Risk of frailty correlated with the presence of HIV, the duration of HIV infection and the severity of the infection (low CD4 count and high VL)
    - 55 year old HIV positive man with 0-4 years of HIV infection had the same risk of frailty as a 65 year old HIV negative man
Care of the HIV Positive Patient is Complex

- Aging and Frailty
- Comorbid Diseases
- Behaviours and Life Style
- Treatment for HIV and Other Diseases
- and Polypharmacy

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Non-HIV-related deaths among PWA, NYC, 1988-2003*

Non-HIV-related causes of death have increased since the widespread use of HAART.
What Do We Mean by Co-morbidity in HIV

- Any condition not included in CDC list of AIDS defining conditions
- A co-morbidity is not caused by HIV
- Factors associated with co-morbidity
  - Generic (true for all patients)
    - Increased age
    - Race, ethnicity
    - Substance use (alcohol, tobacco, drugs)
    - Toxicity from the treatment for the co-morbidity
  - HIV specific factors that may affect a co-morbidity
    - HIV disease progression
    - Toxicity related specifically to HIV treatment

VA Cohort Studies on HIV and Aging

- Unique data base, EMR, excellent follow-up, similar demographics allow for a “control” group, females are underrepresented
- Initial cohort studies were on HIV infected (881 vets)
- Subsequent cohorts include HIV infected (N=approx 1000) and uninfected control group (N= approx 2000)
- Answers sought
  - Are the co-morbidities seen a result of HIV or its treatment?
  - Is the co-morbidity worsened by HIV
  - Is the co-morbidity worsened by HIV’s treatment
  - Does the co-morbidity worsen HIV
- Need for control group of similar demographics very important
Observations from the VA Cohort Studies

- Although cardiovascular disease increased with age, it was not increased in comparison to HIV uninfected veterans.
- Mental health problems were only increased in the HIV positive age group over age 60.
- Substance use, liver disease, pulmonary disease, renal disease and anemia were more common in HIV positive compared to HIV negative controls.
- Lifestyle issues and HIV risk factors may play a role in the co-morbidities seen in the VA.

Care of the HIV Positive Patient is Complex

- Aging and Frailty
- Comorbid Diseases
- Behaviours and Life Style
- HIV and Other Diseases
- Treatment for HIV and Polypharmacy
Contributory Behaviors: VA Study on HIV and Aging

- **Alcohol** (60-75% active)
  - Exacerbation of HCV
  - Harder to treat HCV
  - Mitochondrial Injury
  - Liver disease
  - Liver cancer
  - Hypertension
  - Pneumonia
  - Anemia
  - Dementia
  - Risky sex
  - Poor adherence

- **Other Drug use** (~30% active)
  - Obstructive lung disease (marijuana)
  - Lung disease (talc - heroin)
  - Heart disease (cocaine)
  - Kidney disease (IDU)
  - Risky sex
  - Poor adherence

Alcohol Use and Comorbidity in HIV

Justice AC et al. Medical Care 2006;44:S52-S60.
Smoking and Health

40-70% HIV Positive smoke compared to 20% in general US pop.
- Accelerates aging and shortens life expectancy by up to 10 years
- Obstructive lung disease
- Pneumonia - bronchitis
- Vascular disease (heart, brain, peripheral)
- Hypertension
- Cancer - lung, head and neck, bladder, esophageal, etc.
- Bone Disease – osteopenia and osteoporosis

VA Cohort Study: HIV Mortality Rate by Smoking Status

Mortality Rate =Deaths/100 Person Years  \( p<0.001 \)

After adjustment for age, race/ethnicity, CD4 count, viral load, hemoglobin, drug and alcohol use HR for death for current smokers was 2.0 (p=0.04).

Summary and Conclusions:

• Prevalence of HIV and AIDS among persons > 50 years will continue to increase

• These patients are going to require multiple services
  – Housing and social support
  – Complicated medical illnesses and treatment
  – Mental health
  – Prevention
  – Substance and alcohol use treatment
  – Home health care

• Providers will need to design programs that will engage the elderly HIV infected and provide for the prevention needs of the HIV uninfected

• Providers for the HIV infected and the elderly will need to effectively collaborate and coordinate their services