Impressive gains in survival for older people with HIV but still less than general population

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In Canada and other high-income countries, more and more people with HIV are reaching the age of 50. This aging of the HIV population has occurred mainly because of the tremendous life-prolonging effects of potent combination anti-HIV therapy (commonly called ART). Although less significant, another reason for the increased number of people over 50 with HIV is that more members of that age group are becoming newly infected.

There are good data about the effects of ART on life expectancy in young adults, but what happens to people over the age of 50 who start ART? How long will they live?

Researchers at several universities and hospitals in Denmark collaborated in an effort to answer this question. They compared data on survival between HIV-positive and HIV-negative people who were at least 50 years old when they entered the study. The researchers found that while survival has greatly improved for older HIV-positive people—their life expectancy is now in the 70s—it was not as long as among healthy, HIV-negative people.

The Danish study underscores at least the following issue:

- We need further research targeted specifically to older HIV-positive people to uncover the reason(s) for their less-than-normal lifespan.

Study details

Denmark has high-quality databases that collect detailed health-related information on its citizens and residents. Such databases are common in some northern European countries, where levels of trust between citizens and the state are relatively high. Denmark has a universal healthcare system and provides subsidized access to medicines, including ART.

Researchers focussed on the period between January 1996 and May 2014. Data captured from each HIV-positive person were compared to data collected from six healthy, HIV-negative people of the same age and gender as the HIV-positive person.

Here are the basic requirements HIV-positive people had to meet to enter this study:

- they would reach the age of 50 during the study period
- they had been HIV-positive for at least one year prior to entering the study

Using these criteria, researchers enrolled 2,440 HIV-positive people and 14,588 HIV-negative people.

The average profile of the HIV-positive people when they entered the study was as follows:

- 84% men, 16% women
- age at which HIV was diagnosed – 43 years
- CD4+ count – 252 cells/mm$^3$

Results
Over the course of the study, the average estimated lifespan of a 50-year-old HIV-positive person would likely have changed as follows:

- 1996 to 1999 – 62 years
- 2000 to 2005 – 68 years
- 2006 to 2014 – 73 years

It is likely that these differences in life expectancy among HIV-positive people are related to the years spent living with untreated or poorly managed HIV disease before ART became available in 1996. In the 21st century, as ART regimens have become more tolerable and patients and doctors have gained more experience using them, regimens have also become more effective and people have gradually begun to initiate ART earlier in the course of HIV disease. All of these factors have improved life expectancy.

Among HIV-negative people who were 50 years old, the average life expectancy did not change significantly between 1996 and 2014, and this group could expect to live to age 80.

As readers can see, there is a gap of seven years (73 vs. 80 years) between HIV-positive and HIV-negative people, even in the more recent era, that is 2006 to 2014.

Focus on a sub-group

In a more detailed analysis of survival, Danish researchers focussed on a sub-group of HIV-positive participants in their database who had the following specific features:

- received at least one year of ART
- a viral load of less than 500 copies/ml
- a CD4+ count of at least 350 cells/mm³ after the first year of using ART
- no other serious health conditions (mental health issues, co-infections and so on)

Using these criteria, researchers found 517 HIV-positive participants. None of these people had ever had a serious AIDS-related illness or complication. Their average age at HIV diagnosis was 45 years. Researchers compared the survival of this sub-group of 517 people to 3,192 healthy, HIV-negative people of the same age and gender who also did not have comorbidities.

The researchers then calculated that, on average, a 50-year-old HIV-positive person from this sub-group would be expected to live to age 76. In contrast, among the 3,192 healthy, HIV-negative people without comorbidities used for comparison, researchers expected that they would live to the age of 84, a difference of eight years.

Therefore, no matter how they did their analyses, the researchers found that HIV-positive people did not attain a survival rate identical to that of the HIV-negative people.

Points to consider

1. Researchers have calculated that survival among HIV-positive people aged 50 and older has increased significantly since 1996. This is largely due to the tremendous life-prolonging effects of ART.
2. Since 1996, average life expectancy has greatly improved for HIV-positive people, but it is still less than that of the average HIV-negative person. This was true even when researchers restricted their analysis to a sub-group of HIV-positive people who did not have comorbidities.
3. Denmark offers universal healthcare and subsidized access to medicines, including ART. It also has a relatively generous social welfare system. Therefore, it is unlikely that socio-economic factors played a role in the reduced survival seen in the present analysis.
4. This Danish study should spark further research, both in Denmark and in other high-income countries, in order to assess the healthcare needs of older HIV-positive people and uncover issues that are affecting their survival and quality of life.

—Sean R. Hosein

Resources:
Danish study raises questions about accelerated aging in HIV - CATIE News

Quantification of biological aging in young adults – Proceedings of the National Academy of Science USA

Management of Human Immunodeficiency Virus Infection in Advanced Age – Journal of the American Medical Association

Long-term HIV infection and health-related quality of life - CATIE News

Dutch doctors explore intersection of aging and HIV - CATIE News

Geriatric syndromes found to be common among some people with HIV - CATIE News

HIV and Aging: State of Knowledge and Areas of Critical Need for Research. A Report to the NIH Office of AIDS Research by the HIV and Aging Working Group

The CIHR Comorbidity Agenda – Canadian Institutes of Health Research (CIHR)

CIHR’s HIV Comorbidity Research Agenda: Relevant Research Areas

HIV and Aging – Healthy living tips for people 50 and over living with HIV

HIV and Aging – CATIE Webinar Series: Building Blocks

Mental Health – HIV in Canada: A primer for service providers

HIV and brain-related issues – TreatmentUpdate 204

Longer life expectancy for HIV-positive people in North America – TreatmentUpdate 200

Factsheets on HIV and aging in Canada – Canadian AIDS Society

Evidence-informed recommendations for rehabilitation with older adults living with HIV: a knowledge synthesis – Canadian Working Group on HIV and Rehabilitation (CWGHR)

REFERENCES:


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