Good news for HAART users

In high-income regions such as North America, Western Europe and Australia, highly active antiretroviral therapy (HAART) has been available since about 1996. In these regions, HAART’s impact has been dramatic. For instance, once-dreaded AIDS-related infections are now uncommon in HIV positive people who are aware of their health status, keep regular appointments with their health care team and adhere to treatment.

HAART works by suppressing production of HIV. In turn, with reduced exposure to new viruses and toxic viral proteins, the immune system is able to gradually repair itself. But the immune system does not return to a pristine pre-HIV state. Also, HAART does not cure HIV infection, so taking therapy is a lifelong activity. Despite these caveats, HAART has helped save many lives.

Researchers in Canada, Western Europe and the United States have been compiling databases containing health-related information on HIV positive people under care. Their analyses suggest that, overall, life expectancy since HAART has been considerably increased. However, the benefits of HAART are not evenly distributed and vary according to different factors such as gender and risk behaviour.

Study details

Researchers in Canada, including those at the B.C. Centre for Excellence in HIV/AIDS and the Southern Alberta Clinic, collaborated on a massive international database project where they pooled their collective databases, amassing information on a total of 43,355 HIV positive people. Such a giant database becomes a powerful statistical tool for finding and confirming trends among these people.

The study team focused on the time between January 1, 1996 and December 31, 2005. They divided participants into three groups corresponding to their initiation of HAART in the following time periods:

- 1996 to 1999: about 19,000 people
- 2000 to 2002: about 14,000 people
- 2003 to 2005: about 11,000 people

Because of the way the researchers reported their data, we are unable to provide the usual composite profile of an average participant.

Results—Overall

Over time, researchers noted certain trends, such as the following:

- starting therapy at an older age
- starting treatment earlier in the course of HIV disease
- more women starting HAART

Results—Survival

Over the study period, survival of HIV positive people who used HAART increased significantly, particularly for young people. Other trends were as follows:

- women were more likely to survive than men
- injection drug users (IDUs) had lower survival rates compared to women and men who were not IDUs

The research team speculates that the following factors might explain these differences between women and men, and between IDUs and people who were not IDUs:
- adherence issues
- inadequate or unequal access to care and treatment
- co-infection with hepatitis C virus
- high rates of nicotine addiction
- low income

The researchers were unable to take these issues into account when doing their study but these factors point the way forward for future research on survival trends.

**Results—Deaths**

A relatively small proportion of participants (about 5%) died during the study. Many of these deaths were AIDS-related. However, there were also deaths from causes unrelated to AIDS, including the following:

- cancers
- cardiovascular diseases
- kidney-related complications
- liver-related complications
- suicide

This last point may bear further scrutiny. HIV infects immune cells within the brain. These infected cells release toxic proteins that damage brain cells. In turn, this damage can result in problems with memory, thinking clearly, emotional control, coordinating muscles and movement, and other brain-related issues. In extreme cases, HIV-related brain damage results in dementia.

Fortunately, now that HAART is available, HIV-related dementia is uncommon, at least in high-income countries. But the relatively high rates of death due to so-called accidents or suicide in this study were “alarming,” according to leading Australian researcher Dr. David Cooper. Perhaps one of the reasons for the high rate of suicide is because of HIV’s effect on the brain in some people. To be certain, brain researchers need to investigate this.

**Counting up the years**

Still, overall, the study was good news for many HAART users. Here are some overall examples for males, as cited by researchers:

- An HIV positive man who begins HAART at age 20 can expect to live for an additional 43 years to age 63.
- An HIV positive man who begins HAART at age 35 can expect to live for another 32 years to age 67.

For females, the researchers gave these examples:

- An HIV positive woman who begins HAART at age 20 can expect to live for an additional 44 years to age 64.
- An HIV positive woman who begins HAART at age 35 can expect to live for another 32 years to age 67.

For injection drug users, the figures were good but not as good as those for people who did not inject drugs, as follows:

- An HIV positive IDU who began HAART at age 20 can expect to live for an additional 33 years to age 53.
- An HIV positive IDU who begins HAART at age 35 can expect to live for another 23 years to age 58.

These calculations are estimates from a large group and individual results can vary considerably based on some of the factors previously listed (co-infections, adherence and so on). However, bear in mind that in the time before HAART a person had an average of about 10 years between the time of infection and the development of AIDS. So HAART has made a huge difference.

Still, although HAART has clearly extended survival, the improvement in survival results in a lifespan that is only about 67% of what an average HIV negative person is likely to experience. So much work remains to be done to understand why this is the case. It is possible that the differences in survival between HAART users and healthy HIV negative people are due to HIV’s damage to the immune system before treatment is initiated.
In the future, as HAART continues to become safer and more tolerable, it is likely that studies will explore the possibility of starting therapy at higher CD4+ cell counts.

REFERENCES:

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