Research on reducing the impact of aging

It is true that as people age, their immune systems (and other organs) decline. HIV infection itself does apparently prematurely age the immune system. However, potent combination anti-HIV therapy (commonly called ART or HAART) is able to help the immune system partially correct defects caused by HIV infection. This partial correction is sufficient, at least in people who respond to ART, to make many AIDS-related infections now a relatively rare occurrence in high-income countries. It may be that if ART is started very soon after HIV infection occurs, it could help prevent some of HIV’s detrimental effects on the immune system. Specifically, it may be able to prevent HIV-associated aging (shortening telomeres) of the immune system. This is something that needs to be explored in clinical trials.

Staying healthy

One team of scientists that studies aging and telomere length in HIV-negative people notes that “a number of physiologic and/or psychological factors have an impact on overall health as well as effect on telomere length [in cells of the immune system].”

Several studies have found an association between shortened telomeres and the following:

- sustained stress
- major depression
- obesity

A team of Canadian researchers has found that substance use—tobacco smoking and exposure to street drugs—appears to age the immune systems of HIV-positive women.

Observational studies have found that the following factors may lengthen telomeres in HIV-negative people:

- regular exercise
- maintaining a healthy weight
- eating more fruit and vegetables
- quitting smoking
- engaging in activities to help reduce the negative effects of stress, such as meditation and yoga

Emerging research suggests the possibility that eating a diet rich in omega-3 fatty acids (found in relatively large amounts in wild salmon, anchovies and sardines) may play a role in reducing inflammation and maintaining telomere length.

Until studies in HIV-positive people are done, the impact of these activities on their telomeres is not clear. What is clear is that taking ART, engaging in healthy activities (see above list), practising safer sex to reduce exposure to herpes viruses (some studies suggest that such viruses play a role in aging) and, where necessary, getting help and support for recovery from depression and addiction(s) are likely to enable HIV-positive people to stay healthy, reduce their risks for many illnesses and improve their quality of life.

—Sean R. Hosein

REFERENCES:


Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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