Helping those living with HIV take heart

Researchers are trying to find out why people with HIV are more susceptible to heart disease, write Anthony Fauci and Glenda Gray

The widespread availability of antiretroviral medications that suppress HIV in infected individuals has transformed the HIV/AIDS epidemic throughout the world, particularly in South Africa. Antiretroviral therapy (ART) is life-sustaining and now people living with HIV can have hope for a long and healthy life. Expanded access to ART is the main reason the number of AIDS-related deaths has been more than cut in half in South Africa since its peak in the mid-2000s.

While we welcome this pivotal advance, there is much that still needs to be done to improve the lives of people living with HIV.

Although such people now enjoy better health, ART, recent studies have found that even with treatment that effectively suppresses the virus, people living with HIV can be up to twice as likely to experience some forms of heart disease compared to those who do not have HIV. Women living with HIV have up to three times the risk of developing heart disease compared to women who do not have the virus.

This represents a "double jeopardy" for people with HIV, who, while much less likely to die of AIDS because of ART treatment, now find themselves at elevated risk of another life-threatening disease.

Heart disease claims more globals than any other illness, and when the disease does not directly kill, cardiovascular events such as heart attacks and strokes can leave people with lifelong disabilities and expensive medical needs.

While we view heart disease as an inevitable outcome of ageing, the reality is that many cases of heart disease can be prevented.

HIV/AIDS researchers are seeking to expand our knowledge of the relationship between HIV and heart disease, and to determine the mechanisms whereby HIV infection as well as some of the drugs used to treat HIV can increase the incidence of heart disease.

Some of the strategies that helped lead to the development of life-saving ART more than two decades ago — innovative science, novel designs for clinical research, and engagement with the HIV/AIDS community — are being used today to identify regimens that will not only treat, but also prevent, heart disease in people living with HIV.

An important effort towards this goal is taking shape through a large international clinical study called Reprieve trial, which was launched in February at five clinical research sites across South Africa.

Reprieve, which stands for the Randomised Trial to Prevent Vascular Events in HIV, aims to expand our knowledge of how HIV and heart disease are related, and how this connection may affect the health of men and women from varying backgrounds.

The study plans to enrol 6,500 men and women living with HIV around the world, aged between 40 and 75, whose virus is suppressed by ART. It seeks to determine if a daily dose of a cholesterol-lowering drug can reduce the risk of heart disease in such individuals, who are considered at low to moderate risk of developing heart disease.

Reprieve is the largest clinical trial [for] a strategy to prevent HIV-related heart disease

Infection in the first place. Just as people with HIV infection can assume control of their health by taking life-saving ART, uninfected people can prevent acquisition of the infection through action — by understanding the risk factors for infection, and using proven HIV prevention tools such as condoms, voluntary medical male circumcision, and, under certain circumstances, by taking a drug to prevent infection, an intervention called pre-exposure prophylaxis. Our respective institutions are working together to mitigate the public health impact of HIV by improving the health of those living with HIV and developing safe and effective ways to prevent HIV infection, such as pre-exposure prophylaxis with long-acting injectable antiretrovirals, vaginal rings embedded with antiretroviral drugs, and infusions of antibodies that block or neutralise the virus.

We also launched a pivotal preventative HIV vaccine trial in South Africa called HVTN 702 on World AIDS Day last year. These studies take place alongside efforts to develop strategies to help people with HIV cope with the impact of living for perhaps several decades with the virus and its lifelong daily treatment. We strive to develop diverse options so that people will have mechanisms to prevent the acquisition of HIV or, if they become infected, they can live long and healthy lives.

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