Dutch study ties HIV to erection problems in middle-aged men

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- Some HIV-positive men are at higher risk for erection difficulties.
- Researchers excluded other factors to conclude that HIV infection was linked.
- HIV medication lopinavir-ritonavir associated with erection problems in some men.

Studies suggest that HIV infection is associated with an increased risk for sexual difficulties in men, including problems getting and maintaining an erection and, in some cases, decreased sexual desire. To better understand possible causes of these problems, researchers in the Netherlands compared health-related information from HIV-positive and HIV-negative middle-aged men. They specifically asked the men about erectile function, sexual satisfaction and sexual desire.

The researchers’ initial findings suggested that all three issues were present in some of the men, so they analysed the men’s medical histories. This is important because several other factors—including cardiovascular disease, diabetes, depression, some recreational drugs and the use of some non-HIV medications (such as drugs to lower blood pressure and to treat depression)—can contribute to male sexual dysfunction. After taking into account these and some other factors, the researchers concluded that HIV infection itself was linked to a significantly increased risk for problems getting and maintaining an erection.

The researchers also found something intriguing: Men who had used the anti-HIV treatment lopinavir-ritonavir were at increased risk for erection problems. This fixed-dose formulation of two drugs was sold under the brand name Kaletra and was widely used in the past decade. This finding about exposure to lopinavir-ritonavir and erection problems is at best suggestive and not definitive, and we urge readers to treat it with caution for reasons explained later in this bulletin.

Study details

The researchers analysed data from 399 HIV-negative and 366 HIV-positive men of similar age and other characteristics, collected in an observational cohort study called AGEnTV. Participants visited study clinics every two years for physical exams, answered surveys, and gave blood and urine samples. All participants were at least 45 years old. The data for the analysis of male sexual function was collected between the years 2010 and 2012, when participants initially entered the study. Data from people who were taking hormones such as DHEA or testosterone or who were using medicines to treat male sexual dysfunction were not used for this analysis.

Results

The most common health condition linked to erection problems was depression. After taking into account this and many of the other factors that can affect male sexual health, the researchers found that having HIV infection was associated with difficulties getting and maintaining an erection. They also found that HIV infection was not linked to decreased sexual satisfaction or decreased sexual desire.

Protease inhibitors and other drugs

As mentioned earlier, the data for this analysis was collected between 2010 and 2012, an era when protease inhibitors were still commonly used. In North America and parts of Western Europe today, doctors increasingly prescribe another class of anti-HIV therapy called integrase inhibitors as the anchor drug for HIV combination...
therapy. At the time of the initial data collection on male sexual health, the only integrase inhibitor widely used in the Netherlands was raltegravir (Isentress). There was no signal of erection problems linked to the use of raltegravir.

However, researchers found that there was a signal between the use of lopinavir-ritonavir and erection problems. Furthermore, the longer that one used this drug, the greater the risk for developing erection problems.

There was no link between problems getting and/or maintaining an erection and exposure to the following older anti-HIV drugs (these are commonly called “D-drugs”):

- ddC – HIVID (zalcitabine)
- ddl – Videx (didanosine)
- d4T – Zerit (stavudine)

**Bear in mind**

The present study confirmed that some HIV-positive men are at heightened risk for difficulties getting and maintaining an erection, and even for decreased sexual satisfaction and decreased sexual desire. Depression was the most common cause of sexual problems in the HIV-positive men in the study. However, after researchers took depression (and many other factors) into account, they found that HIV was associated with an increased risk for problems getting and maintaining an erection.

The researchers also found that exposure to lopinavir-ritonavir was linked to an increased risk for erection difficulties. Note that the study’s design was observational and cross-sectional in nature. Studies with such designs are good at finding associations between one thing and another. However, observational (and cross-sectional) studies can never prove “cause and effect.” That is, a study such as this one can never prove that exposure to lopinavir-ritonavir resulted in erection difficulties. Observational and cross-sectional studies are good at trying to uncover the causes of health issues. The findings can then be better understood in a trial of a more robust statistical design. The results from the Netherlands provide a baseline of what is happening around male sexual health in the AGEHIV study.

The present study focused only on 43 men who disclosed problems with erections. A larger group of participants will be needed in the future.

**Testosterone**

Researchers did not measure blood levels of “free testosterone”—the form of testosterone that is available for use by tissues. Such measurements are necessary for comprehensive studies about male sexual health, particularly in men who have erection difficulties. Since the late 1980s, researchers have reported that HIV-positive men have lower-than-normal levels of testosterone in their blood. This does not always normalize after HIV treatment is initiated. The reason for lower-than-normal levels of testosterone in otherwise healthy HIV-positive men is not clear. Hopefully, the Dutch researchers will be able to report on long-term trends in male sexual health, particularly concerning issues of getting and maintaining an erection. Poor sexual health can affect quality of life, and as researchers predict that many people with HIV on effective HIV treatment will have near-normal life expectancy, studying issues that can affect quality of life will become important.

**Resources**

**Male sexual health**

Some issues related to sexual dysfunction in men – TreatmentUpdate 220

Do integrase inhibitors affect testosterone levels in men? – TreatmentUpdate 220

**Treatment as prevention**

CATIE statement on the use of antiretroviral treatment (ART) to maintain an undetectable viral load as a highly effective strategy to prevent the sexual transmission of HIV

**Life expectancy**
B.C. researchers explore life expectancy among HIV-positive people – CATIE News

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

What reduces survival 10 years after starting ART in North America and Europe? – TreatmentUpdate 217

Challenges in achieving a longer life – TreatmentUpdate 214

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

Exploring factors linked to longer survival among ART users – TreatmentUpdate 200

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

—Sean R. Hosein

REFERENCES:

1. Dijkstra M, Van Lunsen RHW, Kooij KW, et al. HIV-1 status is independently associated with decreased erectile function among middle-aged men who have sex with men in the era of cART. *AIDS*. 2018; in press.


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