

# **Risk of HIV treatment failure present even in those with low viral load**

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People with human immunodeficiency virus (HIV) run a higher risk of virologic failure than previously thought, even when their number of RNA copies of the retrovirus per millilitre of blood is slightly above the detection threshold, according to a study by Claudie Laprise at the University of Montreal's Department of Social and Preventative Medicine. Her findings were published in *Clinical Infectious Diseases*. The study was conducted in close collaboration with doctors from the Clinique médicale du Quartier Latin de Montréal, based on data from the files of 1,860 people living with HIV and covering a period of 12 years. Nearly 94% of the patients were men.

## **Minimizing the presence of the retrovirus**

The prognosis for people with HIV has considerably improved since the advent of antiretroviral therapy (ART) in 1996. ART acts by reducing the presence of the retrovirus in the blood of infected people. This maintains the immune functions required to prevent the disease from progressing to acquired immunodeficiency syndrome (AIDS). From a clinical point of view, the viral load test measures the activity of HIV in the patient and the effectiveness of ART. The goal of treatment is to keep the viral load below the detection limit, which is about 50 copies of viral RNA/ml.

## **Reducing the risk of virologic failure**

Despite treatment, patients sometimes show persistent low viral load during medical follow-up, from 50 to 1,000 copies/ml, for a number of months. The higher the persistent viral loads, the higher the patients are at risk of developing virologic failure. "Virologic failure, defined in this study as a viral load above 1,000 copies/ml of viral RNA in the blood, is to be avoided, not least because it shows the progression of the disease," Laprise explained.

Her results confirm that the risk of virologic failure is a function of persistent viral load. Thus, a patient with a persistent viral load between 500 and 999 copies/ml after a six-month follow-up runs a five times higher risk of virologic failure compared to patients whose viral load is undetectable.

However, a persistent low viral load (50 to 199 copies/ml) doubles this risk as much as an "average" persistent viral load (200 to 499 copies/ml). "This result surprised us because we did not believe that a load as low as 50 to 199 copies/ml after 6 months could result in a significant risk of virologic failure," said Laprise.

According to her, this represents important clinical data: for now, there is still no consensus on the therapeutic way forward in the presence of persistent low [viral load](#).

Indeed, in such circumstances, doctors may decide to alter the patient's therapy or continue to observe the patient without changing the therapeutic approach. "To the extent that our results are confirmed by other studies, our findings could provide a new element in assessing the situation of people with HIV, because of the potential risk factors our data have uncovered," Laprise said.

## What is HIV/AIDS?

The [human immunodeficiency virus](#) (HIV) is a [retrovirus](#) infecting humans and causing acquired immunodeficiency syndrome (AIDS), which is a weakened immune system increasing vulnerability to multiple opportunistic infections.

Transmitted by several bodily fluids, HIV is now considered a pandemic that has killed about 25 million people between 1981 (when the first case of AIDS was identified) and January 2006.

Although antiretroviral therapy (ART) can control HIV, there is still no vaccine or cure. Prevention, which notably includes safe sex and knowing one's HIV status to prevent infection in others, is the most effective means of control.

Provided by University of Montreal

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