

RESEARCH SUMMARY (Confrance Abs

LONG-TERM EFFECTIVENESS OF INITIATING NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR (NNRTI) VERSUS RITONAVIR-BOOSTED PROTEASE INHIBITOR (BPI)-BASED ANTIRETROVIRAL THERAPY: IMPLICATIONS FOR FIRST-LINE THERAPY CHOICE IN RESOURCE-LIMITED SETTINGS



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**INTRODUCTION**

Lab testing of a patient’s blood is the best way to determine whether HIV drug therapy has failed. In many resource-limited settings, failure of HIV drugs is diagnosed clinically, rather than by testing. This increases the time patients stay on a drug therapy without knowing it is no longer working effectively. This study, based in British Columbia (BC), compared the long-term consequences of remaining on failing therapy for six months for non-nucleoside reverse transcriptase inhibitor (NNRTI) and boosted protease inhibitor (bPI)-based cART. We also calculated the probability of individuals developing drug resistance in the two groups.

**FINDINGS**

* Patients that received the NNRTI therapy compared to bPI therapy had lower treatment failures after six months.
* Patients on both therapies who had pVL ≤500 at time of failure were more likely to have suppressed HIV at 12 months, compared to patients with pVL >500.
* Resistance to HIV drugs was about equal in patients on both therapies whose pVL at time of failure was ≤500. But in patients with pVL at time of failure >500, resistance was 77% lower in patients on bPIs.

**PUBLIC HEALTH IMPLICATIONS**

In settings where viral load testing is not available, HIV therapy based on bPIs is a safer choice than NNRTIs. Access to regular virologic monitoring is critically important, especially if NNRTIs remain a preferred choice for first-line therapy in resource-limited settings.

**METHODS**

The study followed individuals first starting NNRTIs or bPIs from 1 Jan 2000 until 30 Jun 2013. At six months, effectiveness of the therapy was measured using plasma viral load (pVL) as the indicator. A pVL refers to the amount of virus a person has in their blood. A pVL of >50/mL indicated treatment failure, with the drugs not suppressing HIV. Patient pVL at the time of failure was assessed for pVL ≤500 and >500/mL.

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