

## Press release

# HIV: a therapeutic advance for resource-limited settings

**ANRS 12286 MOBIDIP<sup>1</sup>, a clinical trial running in parallel in three countries in sub-Saharan Africa (Cameroon, Burkina Faso, and Senegal), shows that dual therapy with lamivudine and a boosted protease inhibitor is effective as second-line treatment in patients infected by HIV with multiple mutations. Such treatment de-escalation will reduce costs, side effects, and the need for virological monitoring of patients. The results of this study, led by Laura Ciaffi (TransHIVMI; Inserm-IRD-Université de Montpellier) and Sinata Koulla-Shiro (ANRS site - Cameroon), is published in *The Lancet HIV* on May 28, 2017.**

Second-line treatments of HIV infection recommended by the WHO for resource-limited countries are highly effective. However, there is currently no reliable way of de-escalating these treatments, while maintaining an undetectable viral load. Two strategies may provide a solution. The first is monotherapy with a boosted protease inhibitor (BPI), which in several trials has already yielded encouraging results, albeit with a risk of increased viral load. Such an increase constitutes a risk in resource-limited countries because patients there do not have access to regular virological monitoring, which can identify treatment failure. The second strategy is to combine a BPI with lamivudine, which is inexpensive, well tolerated, often used first line, and effective. This combination, however, has never been evaluated in patients infected by HIV with mutations that confer drug resistance, notably to lamivudine (M184V). ANRS 12286 MOBIDIP is the first trial to compare these two treatment de-escalation strategies in resource-limited countries, in patients with viremia controlled by second-line treatment.

## **ANRS 12286 MOBIDIP: assessing the efficacy of a new therapeutic strategy**

ANRS 12286 MOBIDIP was led from 2014 and 2016 by Laura Ciaffi of TransHIVMI (joint Inserm-IRD-Université de Montpellier research unit, directed by Eric Delaporte of IRD/Université de Montpellier) and Sinata Koulla-Shiro (ANRS site - Cameroon) and her colleagues in 3 countries of sub-Saharan Africa (Cameroon, Burkina Faso, and Senegal). The study's 265 patients<sup>2</sup> had an initial viral load below 200 copies/mL, and were followed up for 96 weeks. The main purpose of ANRS 12286 MOBIDIP was to compare the failure rates of the two therapeutic strategies: monotherapy and dual therapy. Half the study patients received BPI treatment and the other half were given BPI plus lamivudine. After 48 weeks of treatment, monotherapy was interrupted and the patients resumed triple drug therapy. The patients on dual therapy continued their treatment till week 96.

<sup>1</sup> Evaluation of a maintenance strategy using protease inhibitor with or without lamivudine in patients in Africa (Yaoundé, Bobo-Dioulasso, Dakar) with a viral load controlled by second-line antiretroviral therapy

<sup>2</sup> These patients were from ANRS 12169 2LADY (comparative trial of second-line triple drug therapies).

## Efficacy of dual therapy including lamivudine

The rate of treatment failure, defined as a viral load above 500 copies/mL, was 3% (4/132 patients) for dual therapy and 24.8% for monotherapy (33/133 patients). CD4 cell count increased greatly in the patients on dual therapy (65 versus 12 cells/mm<sup>3</sup>), indicating increased immune defense. Overall, both treatments were well tolerated by the patients.

ANRS 12 286 MOBIDIP has provided the first evidence of the efficacy of de-escalated second-line therapy, which is less costly and better tolerated than triple-drug therapy in patients infected by HIV with multiple mutations. This dual therapy combining BPI and lamivudine could be appropriate in resource-limited countries with economic and virological monitoring constraints. Moreover, the use of lamivudine, which is already used in first-line treatment, could avoid the switch to another class of drugs, which could be prescribed later if necessary.

### Reference

**Boosted protease inhibitor monotherapy versus boosted protease inhibitor plus lamivudine dual therapy as second line maintenance treatment in HIV-1 infected patients in Sub Saharan Africa (ANRS12 286/MOBIDIP): a randomized, controlled, open-label superiority trial.** Laura Ciaffi<sup>1</sup>, Sinata Koulla-Shiro<sup>2</sup>, Adrien Sawadogo<sup>3</sup>, Cheik Tidiane Ndour<sup>4</sup>, Sabrina Eymard-Duvernay<sup>1</sup>, Pretty Rosereine Mbouyap<sup>2</sup>, Liliane Ayangma<sup>5</sup>, Jacques Zoungrana<sup>3</sup>, Ndeye Fatou Ngom Gueye<sup>6</sup>, Mohamadou Diallo<sup>4</sup>, Suzanne Izard<sup>1</sup>, Guillaume Bado<sup>3</sup>, Coumba Toure Kane<sup>7</sup>, Avelin Aghokeng<sup>1,8</sup>, Martine Peeters<sup>1</sup>, Pierre Marie Girard<sup>9</sup>, Vincent Le Moing<sup>1</sup>, Jacques Reynes<sup>1</sup>, Eric Delaporte<sup>1</sup> for the MOBIDIP Study Group. *The Lancet HIV*, 28 may 2017.

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