

## **Optimizing antiretroviral therapy for HIV infection: new tendency**

### Optimización del tratamiento antirretroviral para el VIH: nueva tendencia

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To the editor

Despite of coronavirus pandemic with its serious consequences for the world-wide health and the economy in a short time (months), the HIV infection remains by years as a complicated health problem for the world too. But with the great difference the last entity has some successful therapeutics, although there is no cure, a very good control of the infection can be achieved. It is very important to take into account that nowadays all patients should start antiretroviral regimen, no matter his clinical or immunological stage, the tendency is diagnosis and treatment, as early as possible, to avoid the damage to the immunological system by the HIV virus. The goals of this therapy continue being: to get the maximum control of viral replication and to restore the immunodeficiency, so as to prevent the opportunist infections.<sup>(1)</sup>

The antiretroviral drugs have undergone a dramatic development and had passed the three principals problems of them, which consist of the potency antiviral effect,

the toxicity and the burden pills. The majority of the first drugs approved at the beginning of the epidemic, are not recommended for use today. New combinations with more potency antiviral effect, minor toxicity and fewer burden pills have arised.

Up to now, the regimen recommended to treat this infection was the combination of at least three or more drugs, working in different parts of the viral replication cycle, it was called highly active antiretroviral treatment or megatherapy respectively.<sup>(2)</sup> First, the non - nucleoside reverse transcriptase inhibitor was the corner stone of these regimens, in combination with the nucleoside/nucleotide reverse transcriptase inhibitor. After, the protease inhibitors was the group which helped the most those patients with serious immunological problems and highly viral load, but the toxicity has been their principal limitation prescription. Other drugs were developed (as fusion inhibitor) with the hope of improving the antiretroviral effect, but the fact was not really like that. In the case of the CCR5 antagonist, its antiviral depends on specific host receptor characteristics.<sup>(1-3)</sup>

Finally, a new group has been developing, the integrase strand transfer inhibitors, which have changed the traditional point of view in this topic; principally the Dolutegravir, which has high antiviral effect, less toxicities, high resistance barrier and a very important aspect: fewer burden pills. Thanks to these characteristics of the new drug, the compulsory use of three antiretroviral drugs has changed into two only drugs, thereby reducing the number of pills. <sup>(4)</sup>

However, it is important that patients have adequate control of viral replication, characterized by non-detectable level of viral load. This new option is called optimizing antiretroviral therapy in the setting of viral suppression. This alternative has improved the adherence to antiretroviral regimen, by reducing the hospital admission for any opportunistic infection and the most important; the mortality rate for aids. <sup>(3-5)</sup>

The fundamental principle of regimen optimization is to maintain viral suppression without jeopardizing the future treatment options.

Only Dolutegravir with Lamivudine and Lopinavir/Ritonavir together with Lamivudine can be prescribed with this aim. <sup>(4,5)</sup>

**"Reasons to consider regimen optimization in the setting of viral suppression"**

- To simplify a regimen by reducing pill burden or dosing frequency
- To enhance tolerability and or decrease short- or long-term toxicity
- To prevent or mitigate drug-drug interactions
- To eliminate food or fluid requirements
- To reduce costs<sup>(4)</sup>

Remember these regimens cannot be prescribed to patients with titers of viral load >1000 cp/mL; patients with coinfection such as hepatitis B or C virus.

Owing to the presence of comorbidities in these patients, this option will be another alternative to reduce drugs interaction and toxicity, and better adherence.

Before changing the patient to any optimizing regimen, recent viral load must be done, even HIV drugs resistance studies if viral suppression has fail at any time of the clinical course of the patient. After the change, monitoring of viral load should be frequently prescribed, according to the national protocol recommendations.<sup>2</sup>

This new tendency of the antiretroviral should be known by family doctors in primary care, and by HIV care provider either in primary care and secondary care.

As health team gets protocols of treatment less complicated to the patients, it will be easier to achieve better adherence to this treatment, and there after the strategy 90-90-90 in this year can be possible.

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