

Short-course isoniazid plus rifapentine therapy for latent tuberculosis in Brazil

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Brazil is experiencing an epidemiological transition, wherein the incidence of tuberculosis has significantly decreased over the last few years. The World Health Organization's (WHO) new objective for tuberculosis control is to reduce the incidence to below 10 per 100,000 inhabitants by 2035⁽¹⁾. To achieve this target, we must ensure that early diagnosis and care is made available to people in poor communities, people living with human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), the homeless, indigenous populations, illicit drug users, and prison populations, which currently comprise the majority of tuberculosis cases. Early diagnosis continues to be a priority in disease control; this has been reinforced by the Ministry of Health decision to extend the diagnostic network by implementing Xpert (Cepheid, Dx System Version 4.0c) machine nationwide. In this new context of disease elimination, one of the new priorities is the treatment of latent tuberculosis infection (LTBI).

A recently introduced regimen based on 12 doses of rifapentine with isoniazid has been evaluated. This regimen has been found to reduce the treatment time from 6 months to 3 months and the number of doses from 180 to 12⁽²⁾. A manuscript entitled *Rifapentine for tuberculosis treatment infection latent in the general population and human immunodeficiency virus-positive patients: summary of evidence*, which is published in the same issue of the Brazilian Society of Tropical Medicine⁽³⁾, provides an important review of the subject and justifies the recommendation of this new regimen for the treatment of LTBI in Brazil.

Two randomized clinical trials (RCTs) were reviewed. In both trials, the 12-dose regimen combining rifapentine and isoniazid for 3 months had the same effect as the traditional regimen of isoniazid alone, patient adherence was greater (95.7% versus 83.8%⁽⁴⁾ and 82.1% versus 69%⁽⁵⁾) (**Figure 1**), and hepatotoxicity was lower (1.5% versus 2.4%, $p > 0.05$ ⁽⁴⁾; 0.4% versus 2.7%, $p < 0.001$ ⁽⁵⁾) (**Figure 1**). Another recent clinical trial with 6862 participants confirmed these results and showed high adherence and low hepatotoxicity rates (0.4% versus 1.8%, $p < 0.01$)⁽⁶⁾. Similar findings were observed in studies in children

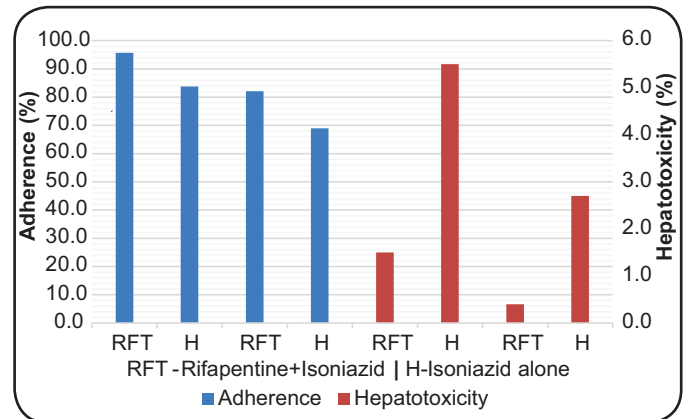


FIGURE 1 - Comparisons of adherence and hepatotoxicity between the two treatment regimens for latent tuberculosis infection.

2-17 years old, in people living with HIV/AIDS on antiretroviral therapy, and in organ transplantation patients^{(7) (8) (9)}. Cost-effectiveness studies have demonstrated the reduced economic impact of this new regimen^{(10) (11)}. A fixed-dose combination of rifapentine (300mg) and isoniazid (300mg) is expected to be marketed soon in tablet form, which will make treatment easier.

To reach the next WHO milestone, LTBI treatment needs to be expanded in Brazil. In the context of a new, simplified short-course regimen, we expect better adherence and coverage of directly observed treatment. In addition to these new recommendations, to increase the diagnosis and treatment of LTBI in Brazil, it is necessary to invest in national manufacturing to provide reagents for diagnosing LTBI and maintaining this new treatment regimen.

CONFLICT OF INTEREST

The author declare that there is no conflict of interest.

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