Protective efficacy of 6-week regimen for latent tuberculosis infection treatment in rural China: 5-year follow-up of a randomised controlled trial

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Shareable abstract (@ERSpublications)
A 6-week twice-weekly rifapentine plus isoniazid regimen showed a protective efficacy of >60% in 5 years, which indicated that preventive treatment based on a short-course regimen might be an optional tool for TB control in China. https://bit.ly/2Yeey7i

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Abstract

Background Enlarging tuberculosis (TB) preventive treatment among at-risk populations is a critical component of the End TB Strategy. There is an urgent need to develop suitable latent tuberculosis infection (LTBI) testing and treatment tools according to the local TB epidemic and available resources worldwide.

Methods Based on an open-label randomised controlled trial conducted since 2015 in China among rural residents aged 50–70 years with LTBI, the protective efficacy of a 6-week twice-weekly regimen of rifapentine plus isoniazid was further evaluated in a 5-year follow-up survey.

Results 1298 treated participants and 1151 untreated controls were included in the 5-year protective efficacy analysis. In the per-protocol analysis, the incidence rate was 0.49 (95% CI 0.30–0.67) per 100 person-years in the untreated control group and 0.19 (95% CI 0.07–0.32) per 100 person-years in the treated group; the protection rate was 61.22%. Subgroup analysis showed that the protection rate was 76.82% in the per-protocol analysis among participants with baseline interferon (IFN)-γ levels in the highest quartile ($\geqslant$3.25 IU·mL^{-1}). Multiple logistic regression analysis indicated that participants with baseline body mass index <18.5 kg·m^{-2} and with pulmonary fibrotic lesions had increased hazard of developing active disease with an adjusted hazard ratio (aHR) of 3.64 (95% CI 1.20–11.00) and 5.99 (95% CI 2.20–16.27), respectively. In addition, individuals with higher baseline IFN-γ levels showed an increased risk of TB occurrence (aHR 2.27, 95% CI 1.13–4.58).

Conclusions Our findings suggest the 6-week twice-weekly regimen of rifapentine plus isoniazid for LTBI treatment might be an optional tool for TB control in the Chinese population.

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