ORIGINAL ARTICLE
LUNG STRUCTURE AND FUNCTION

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The effect of HIV-associated tuberculosis, tuberculosis-IRIS and prednisone on lung function

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Post-tuberculosis lung disease is common in patients with HIV-associated TB at high risk of TB-IRIS (CD4 count ⩽100 cells·μL^{-1}). Neither TB-IRIS itself, nor prednisone treatment, affected long-term pulmonary outcomes in a South African clinical setting. http://bit.ly/2RjMl9c

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ABSTRACT Residual pulmonary impairment is common after treatment for tuberculosis (TB). Lung function data in patients with HIV-associated TB are scarce, especially in the context of paradoxical TB-associated immune reconstitution inflammatory syndrome (TB-IRIS) and prophylactic prednisone. We aimed to determine the prevalence of lung function abnormalities in patients with HIV-associated TB and CD4 counts ⩽100 cells·μL^{-1} and assess the effect of prophylactic prednisone and the development of paradoxical TB-IRIS on pulmonary impairment.

We performed spirometry, 6-min walk test (6MWT) and chest radiography at baseline (week 0) and at weeks 4, 12 and 28 in participants of the PredART trial, which evaluated a 28-day course of prednisone to prevent TB-IRIS in patients with HIV-associated TB commencing antiretroviral therapy.

153 participants underwent spirometry and/or 6MWT at one or more time points. Abnormal spirometry measurements were present in 66% of participants at week 0 and 50% at week 28; low forced vital capacity was the commonest abnormality. Chest radiographs showed little or no abnormalities in the majority of participants. Prednisone use resulted in a 42 m greater 6-min walk distance and a 4.9% higher percentage of predicted forced expiratory volume in 1 s at week 4; these differences were no longer significantly different from week 12 onwards. TB-IRIS did not significantly impair lung function outcome.

Residual pulmonary impairment is common in HIV-associated TB. In patients with low CD4 counts, neither prophylactic prednisone as used in our study nor the development of TB-IRIS significantly affected week-28 pulmonary outcome.