Isoniazid Preventive Therapy and Incidence of Pulmonary Tuberculosis among HIV-infected Patients on Antiretroviral Therapy: A 4-year Study

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Objectives: Implementation of tuberculin skin test (TST) and isoniazid preventive therapy (IPT) is complex with low uptake in tuberculosis-HIV endemic settings. Efficacy of TST and IPT has not been prospectively evaluated in combination with antiretroviral therapy under programme conditions.

Methods: Patients were enrolled and followed for 4 years at HIV clinics of two tertiary-care medical centers in Thailand; one performed TST at enrollment and, if indicated, prescribed IPT (IPT group), and the other one did not (non-IPT group). In both groups, chest radiography was performed at enrollment and annually and antiretroviral therapy initiation was according to the national guidelines. Incidence rates of pulmonary tuberculosis and disease-free survival were analyzed.

Results: There were 200 patients included in each group with 1,251 person-years of follow up. Patient baseline characteristics and drop-out rates were similar in both groups. The incidence of pulmonary tuberculosis was not significantly different between the IPT and non-IPT groups (0.80 cases/100 person-years (100PY) vs. 1.76 cases/100PY; P=0.13) over 4 years. However, the incidence of pulmonary tuberculosis in the non-IPT group was significantly higher during the first 6 months (8.60 cases/100PY vs. 0 case/100PY; P=0.01) and among patients with initial CD4 <200 cells/μl (9.41 cases/100PY vs. 0 case/100PY; P=0.02). The survival analyses demonstrated protective effect of TST and IPT ($\chi^2=3.66; P=0.04$) for early tuberculosis. All-cause mortality rates in both cohorts were similar (3%).

Conclusions: Our findings suggest that TST and IPT were beneficial only for the first 6 months and should be provided for patients with CD4 <200 cells/μl while awaiting tuberculosis protective effect from antiretroviral therapy.

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