

Poster presentation

Factors associated with positive tuberculin skin test results in HIV-1 infected Thai patients

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Background

Screening for and treatment of latent TB infection (LTBI) is recommended for all patients with HIV infection. The main tool used to diagnose LTBI is the tuberculin skin test (TST). In Thailand, characteristics associated with TST positivity have not been well defined in HIV-1 infected patients.

Methods

We performed standardized interviews, physical examinations, TST, and laboratory testing on HIV-1 infected Thai patients between September 2006 and January 2008 at the Anonymous Clinic of the Thai Red Cross AIDS Research Centre. All patients had sputum, blood, urine, stool, and, if enlarged, peripheral lymph nodes cultured for TB. A positive TST was defined as ≥ 5 mm of induration. We analyzed clinical, immunological, and microbiological characteristics associated with positive TST in multivariable logistic regression.

Summary of results

Of 624 HIV-infected patients, 153 (25%) had a positive TST, and 32 (5%) had culture-confirmed TB (30 with at least one positive sputum culture; one positive only from stool; one positive only from blood). Of culture-con-

firmed TB patients, 13 (41%) had sputum positive for acid-fast bacilli. The median age was 32 years (interquartile [IQR], 28–38), and most patients were males. The median CD4+ T-lymphocyte count (CD4) was 306 cells/ μ L (IQR, 192–463), and the mean induration among TST positive patients was 22.8 mm (IQR, 14.5–27). Factors independently associated with positive TST were CD4 count ≥ 200 cells/ μ L (adjusted odds ratio [AOR], 2.8; 95% confidence interval [CI], 1.6–4.9 for 200–499 cells/ μ L; and AOR, 5.8; CI, 3.1–11.1 for ≥ 500 cells/ μ L), history of injection drug use (AOR, 4.3; CI, 1.4–13.5), and chest X-ray abnormalities consistent with TB (AOR, 3.1; CI, 1.6–6.1). Patients with culture-confirmed TB were more likely to have a positive TST compared to other patients (69% vs. 22%; $p < 0.01$). After adjusting for all non-microbiologic factors associated with TST positivity, TST positivity remained strongly associated with culture-confirmed TB (AOR, 11.9; CI, 4.4–32.0).

Conclusion

LTBI was common in HIV-infected Thai patients, particularly those with a history of injection drug use. HIV-infected Thai patients found to have a positive TST require culture of sputum and possibly other sources, not just sputum smear microscopy, to exclude active TB disease.