

Final Report

Evaluation of the T-Spot-TB test in the targeted screening of latent tuberculosis infection among silicotic patients in Hong Kong

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Abstract

Rationale: Silicosis is a well-recognized risk factor for tuberculosis (TB)

Objective: To compare T-Spot.*TB* with tuberculin skin test in predicting the development of TB

Method: Male silicosis patients without clinical suspicion of active TB, past history of TB and treatment for latent TB infection were offered both T-Spot.*TB* and tuberculin skin test (TST) in the Pneumoconiosis Clinic of Hong Kong from 2004 to 2008, and followed prospectively till September 30, 2009 for development of TB.

Results: Active TB and culture/histology-confirmed TB developed in 17 (5.5%) and 14 (4.5%) of 308 recruited subjects at an annual rate of 2247 and 1851 per 100,000 person-years respectively. Active TB occurred in 7.4% (15/204) and 1.9% (2/104) of T-Spot.*TB*-positive and negative subjects respectively, while the corresponding figures for TST (cutoff 10mm) were 6.4% (13/203) and 3.9% (4/205) respectively. A positive T-Spot.*TB* test significantly predicted the subsequent development of active TB (relative risk: 4.50, 95% CI: 1.03-19.68) and culture / histology-confirmed TB (relative risk: 7.80, 95%CI: 1.02-59.63). Consistent results were obtained after exclusion of subjects treated for latent TB infection (LTBI). TST did not significantly predict the development of active TB or culture / histology-confirmed TB, irrespective the cutoff values with or without exclusion of subjects treated for LTBI. Culture filtrate protein 10 spot count, but not early secretory antigenic target 6 spot count, was significantly associated with subsequent TB development.

Conclusion: T-Spot.*TB* performs better than TST in the targeted screening of LTBI among silicosis patients in Hong Kong.

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