High prevalence of latent tuberculosis infection in autoimmune disorders such as psoriasis and in chronic respiratory diseases, including lung cancer.


Source
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Abstract
The early diagnosis and treatment of individuals harboring M. tuberculosis is key to ensuring the effectiveness of health programs aimed at the elimination of tuberculosis (TB). Monitoring for TB also has other important health care implications for the related immune pathology caused by the chronic inflammatory response to M. tuberculosis. Moreover, the recent introduction of biologic therapies for the treatment of several immune-mediated inflammatory diseases has shown unexpected high frequencies of reactivation of latent TB. The present cross-sectional study is aimed at estimating the prevalence of latent tuberculosis infection (LTBI) in different groups of subjects, either undergoing a routine program of screening for TB or a clinical monitoring of autoimmune or lung disorders, by analyzing their immune response in vitro to a pool of different M. tuberculosis antigens through an IFN-gamma-release assay (IGRA). We consecutively tested 1,644 subjects including health care workers (931), healthy immigrants from different countries (93), patients with a diagnosis of psoriasis (405), patients with lung inflammatory disease (60) or lung neoplasia (32) and a group of HIV-1 infected Italian subjects (120). The prevalence of IGRAs positive responses among health care workers was 8.9 percent. In comparison, significantly higher
frequencies were found in healthy immigrant subjects (33.3%), similar to those found in inflammatory broncho-pneumopathies (34.5%) or lung cancer (29.6%). Interestingly, an unexpected high prevalence was also found in patients affected by psoriasis (18.0%), while HIV-infected subjects had values comparable to those of health care workers (10.8%). An age cut-off was determined and applied for each group by receiver operating characteristic (ROC) curves in order to perform the statistical analysis among age-comparable groups. Multivariate analysis showed that the age and clinical conditions such as having a diagnosis of psoriasis or a lung inflammatory disease were independent risk factors for developing an IGRA positive response. This study highlights an unprecedented high prevalence of IGRA positive responses among patients affected by psoriasis and emphasizes the need for a preliminary assessment of LTBI before the administration of any biologic therapy based on cytokine antagonists such as anti-TNF-alpha. Moreover, screening for LTBI should be routinely performed in the presence of a chronic pulmonary disease.

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