Letter to the Editor

The importance of definition of active pulmonary tuberculosis and non-tuberculous pulmonary diseases in studies of diagnostic accuracy in high incidence areas

Michael Eisenhut

Luton & Dunstable University Hospital NHS Foundation Trust, Luton, LU4ODZ, UK

Correspondence to: Michael Eisenhut. Luton & Dunstable University Hospital NHS Foundation Trust, Lewsey Road, Luton, LU4ODZ, UK. Email: michael_eisenhut@yahoo.com.

Submitted Jul 08, 2014. Accepted for publication Jul 18, 2014.
doi: 10.3978/j.issn.2072-1439.2014.07.42
View this article at: http://dx.doi.org/10.3978/j.issn.2072-1439.2014.07.42

To the editor,

In a recent study evaluating diagnostic accuracy of the interferon gamma release assay (IGRA) T-SPOT.TB for the diagnosis of tuberculosis in Southern China the authors found a low specificity of this assay in a group of patients with active pulmonary tuberculosis and non-tuberculous pulmonary diseases (NTBPD) (1). The authors may not be right in attributing this entirely to the presence of latent mycobacterium tuberculosis infection in the group of patients with NTBPD.

This group of patients contained 40.6% patients with pneumonia and 30.2% patients with bronchitis. It is not clear how active tuberculosis was ruled out in those patients if they had a positive IGRA. In studies of diagnostic accuracy it is essential that tuberculosis is ruled out thoroughly by adequate mycobacterial culture of at least three adequate sputum specimens and if necessary bronchoscopy in all chronic bronchitis cases with mycobacterial culture of lavage samples. The isolation of a pathogenic bacterium other than mycobacteria from sputum would not be adequate for ruling out tuberculosis as this may merely reflect nasopharyngeal carriage. NTBPD diagnosis requires rigorous ruling out of tuberculosis for the purpose of assessing an assay to avoid underestimation of specificity particularly in a high incidence area.

On the other hand there is need for a more stringent definition of active tuberculosis in diagnostic studies particularly in high incidence areas. A bacterial (e.g., staphylococcal) pneumonia may present with X-ray images characteristic of tuberculosis (cavity like lesions) (2), tuberculosis symptoms (night sweats, acute weight loss and fatigue) and respond to antituberculous treatment (e.g., rifampicin as an effective anti-staphylococcal treatment). Diagnosis of active tuberculosis during an investigation of the diagnostic accuracy of a laboratory test has to be a rigorous process and rely solely on positive smear, characteristically abnormal histology, positive culture or nucleic acid amplification to avoid underestimation of sensitivities and enable comparability of diagnostic studies and pooling in a meta-analysis.

Acknowledgements

Disclosure: The author declares no conflict of interest.

References

1. Zhu C, Liu Z, Li Z, et al. The performance and limitations of T-SPOT.TB for the diagnosis of TB in a high prevalence setting. J Thorac Dis 2014;6:713-9.
2. Otera H, Yamamoto G, Ohkusu K, et al. Necrotizing pneumonia in the community. Intern Med 2012;51:2463-7.

Cite this article as: Eisenhut M. The importance of definition of active pulmonary tuberculosis and non-tuberculous pulmonary diseases in studies of diagnostic accuracy in high incidence areas. J Thorac Dis 2014;6(9):E193. doi: 10.3978/j.issn.2072-1439.2014.07.42