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Detection of *Mycobacterium tuberculosis* and nontuberculous mycobacteria species from sputum samples using molecular diagnostic assays

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Tuberculosis (TB) is the major health problem worldwide. Even, *Mycobacterium tuberculosis* (MTB) is still one of the main causative agent for TB, however, the incidence of nontuberculous mycobacteria (NTM) infection has been gradually increased for those both in immunocompromised and immunocompetent patients. Precise and rapid detection and identification of MTB and NTM is especially important for both anti-TB therapy and TB control. Molecular diagnostic methods based on PCR are known to be rapid, sensitive and specific compared to conventional acid-fast bacilli (AFB) smear and culture. In the present study, the clinical usefulness of three commercial molecular assays was evaluated with a total of 92 respiratory specimens including 22 AFB smear positive, 67 negative and three unchecked samples and those were collected from the Department of Laboratory Medicine, Maryknoll Medical Center, Busan, Korea. As a result, the overall positivity for detection of MTB and NTM was the highest with TB PCR than other assays in AFB smear and culture positive samples however the overall negativity was the highest with Real MTB-ID in AFB smear and culture negative samples. Diagnostic sensitivity and specificity of three molecular assays compared to conventional diagnostic assays were different however REBA Myco-ID has advantage for detection of polymicrobial infections (5 cases). In order to evaluate their accuracy, further analysis such as DNA sequencing is required.

Biography

Jinyoung Bae has obtained his Bachelor of Health Science and currently pursuing his Master of Science course from Clinical laboratory science, Catholic University of Pusan, South Korea. His research experience focus on Molecular and immunodiagnostics for infectious diseases and cancer from Catholic University of Pusan, South Korea.

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