The importance of non-tuberculous mycobacteria identification in Chinese patients infected with HIV

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Summary

The increased co-incidence of tuberculosis (TB) and AIDS is compounded by the emergence of opportunistic infections with non-tuberculous mycobacteria (NTM) in patients with HIV/AIDS, and the treatment for these infections differs from that for TB. The high frequency of NTM strains found in patients infected with HIV raises concerns about accurate species identification before deciding proper treatment. A total of 101 isolates from 2014, 137 from 2015, and 162 from 2016 were subjected to 16S rDNA sequencing to identify the species. Forty-one (41/101, 40.6%) were identified as NTM in 2014, 64 (64/137, 46.7%) were identified as NTM in 2015, and 72 (72/162, 44.4%) were identified as NTM in 2016 in Chinese patients infected with HIV. The species of Mycobacteria isolates needs to be rapidly and accurately identified to determine appropriate antibiotic therapy, and this is especially true for patients infected with HIV.

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identifying the species of pathogen up and the resistance of most strains of NTM to conventional anti-MTB drugs (6). When treated empirically, some NTM infections are misdiagnosed as non-responsive or drug-resistant MTB cases, and this can result in poor outcomes for those patients (7). Overall, the species of Mycobacteria isolates needs to be rapidly and accurately identified to determine appropriate antibiotic therapy, and this is especially true for patients infected with HIV (8). However, many clinical laboratories in designated HIV/AIDS care units do not have proper facilities and experienced technicians, thus hampering the accurate diagnosis of mycobacterial infections in HIV/AIDS patients in China. All positive mycobacterial isolates need to be sent to an authorized lab for further identification. Conventional biochemical tests are time-consuming and their results are not reproducible, while novel molecular biology techniques and high-performance liquid chromatographic analysis of mycolic acid can be performed accurately and rapidly.

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References


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