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Detection of *M. tuberculosis* and *M. avium* in AIDS patients through PCR: problems and promises. De Miranda¹, AB, Grinstejn², B, Veloso², VG, Degrave¹, WM and Suffys, PN¹ DBBM¹ and HEC² - Oswaldo Cruz Institute - Fiocruz - Rio de Janeiro - Brazil

Confirmation of diagnosis of tuberculosis in AIDS patients is still hampered by the delay of culture and biochemical identification of *M. tuberculosis* and determination of its resistance towards antituberculosis drugs. Also, infection with *M. tuberculosis* can be confused with infection with *M. avium*, an organism that is resistant towards most antituberculosis drugs. The polymerase chain reaction (PCR) is a technique with a potential for rapid and specific detection of parasite DNA, and, both for *M. tuberculosis* and for *M. avium*, PCR systems have been described in literature. However, hardly any data are available for PCR-detection of these organisms in AIDS patients. We adapted the PCR system, detecting the IS6110 sequence of *M. tuberculosis*, and adopted a specific amplification system for *M. avium*. We also developed a processing protocol for blood, through isolation of PBMC and heat shock, allowing application of at least 1 µl of sample to a PCR reaction without inhibition. We encountered specific problems and have preliminary data on PCR detection of *M. tuberculosis* in AIDS patients. We furthermore obtained *M. avium*-specific amplification using pure DNA and are actually testing the PCR system on processed blood from AIDS patients.

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