Clinical Evaluation of a NASBA-Based Assay for Detection of *Candida* spp. in Blood and Blood Cultures

ANNEMARIE BORST, JAN VERHOEF, EDWIN BOEL, AD C. FLUIT

*Eijkman-Winkler Center for Microbiology, Infectious Diseases and Inflammation, University Medical Center, Utrecht, the Netherlands*  
*Laboratory for Medical Microbiology, PAMM, Veldhoven, the Netherlands*

SUMMARY

The number of life-threatening opportunistic fungal infections has shown a dramatic increase. However, the diagnosis of candidemia remains difficult. Nucleic acid amplification assays may improve the detection rate and decrease the time needed for detection and identification of *Candida* spp. Whole blood samples of patients suspected of having candidemia were analyzed using Nucleic Acid Sequence-Based Amplification (NASBA). Furthermore, aliquots of blood cultures of the patients after 2 days of culturing were tested. Eleven data sets from ten patients in two hospitals were generated. None of the whole blood samples was positive in the NASBA assay. Eight samples were positive in the NASBA assay after two days of culturing, whereas only two additional positive samples were found after longer incubation periods. Thus, a two-day culture step is sufficient to greatly improve the sensitivity of the NASBA assay. The NASBA assay detected *Candida* RNA in three patients. In one patient, the yeast was not detected by automated blood culturing, in another patient the NASBA assay detected the infection two days earlier than the blood culture system. (Clin. Lab. 2002;48:487-492)