

PERFORMANCE

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Clinical Evaluation of the FilmArray® Blood Culture Identification Panel in Identification of Bacteria and Yeasts from Positive Blood Culture Bottles.

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This prospective study evaluated the clinical performance of the FilmArray® Blood Culture Identification (BCID) Panel from positive blood culture (BC), compared to conventional microbiological methods.

A total of 206 blood culture bottles were tested during the 3-month study period. Four bottles per patient were collected and when positive, only one bottle was tested on BCID. A total of 167 positive blood cultures showed monomicrobial growth while 24 showed polymicrobial growth. The FilmArray® BCID Panel identified 153/167 (91.6%) samples with monomicrobial growth. However, 13 of the microorganisms not detected are organisms not included on the panel. In 6/167 (3.6%) samples, the FilmArray® BCID Panel detected an additional microorganism compared to conventional methods.

Both the FilmArray® BCID Panel and blood cultures could detect all microorganisms in 17/24 (71%) of samples with polymicrobial growth. However, in 6/24 of the polymicrobial samples, the FilmArray BCID Panel could not detect one or more of the analytes detected by blood cultures. Additionally, 12 blood culture bottles that were positive according to the blood culture system but showed no growth were negative by the FilmArray® BCID Panel.

Overall, the FilmArray® BCID Panel identified all microorganisms in 170/175 (97.1%) blood cultures positive for microorganisms that were included in the panel. Testing and retesting of five bottles in the same day, as well as a longitudinal follow-up of five other blood cultures showed that the FilmArray® BCID Panel results were reproducible.

“The new user-friendly closed identification systems that could work with short hands on time may give small local laboratories the ability to start identification of microorganism in situ at any time around the clock.”

KEY POINTS

- The FilmArray® BCID Panel detected some microorganisms not detected by conventional microbiological methods.
- The microorganisms detected in six blood culture bottles but not present in the BCID Panel are generally considered as contaminants from skin.
- The FilmArray® BCID Panel covered microorganisms in 91.6% of the positive blood culture bottles included in the study.