



In this study, we evaluated the diagnostic performance of multiplex real-time PCR (LightCycler SeptiFast), and compared with blood cultures and cultures from focus of infection in nosocomial sepsis” Dinc et al (2015).

Reference:

Dinç, F., Akalın, H., Özakın, C., Sınırtaş, M., Kebabçı, N., İşçimen, R., Kelebek, Girgin, N. and Kahveci, F. (2015) Comparison of blood culture and multiplex real-time pcr for the diagnosis of nosocomial sepsis. Minerva Anestesiologica. May 29th. .

Comparison of blood culture and multiplex real-time pcr for the diagnosis of sepsis
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Abstract:

BACKGROUND: Causative microorganisms cannot be isolated in many cases of suspected sepsis. Multiplex real-time PCR generates results more rapidly than conventional blood culture systems.

METHODS: In this study, we evaluated the diagnostic performance of multiplex real-time PCR (LightCycler SeptiFast), and compared with blood cultures and cultures from focus of infection in nosocomial sepsis.

RESULTS: Seventy-eight nosocomial sepsis episodes in 67 adult patients were included in this study. The rates of microorganism detection by blood culture and PCR were 34.2% and 47.9%, respectively. Sixty-five microorganisms were detected by both methods from 78 sepsis episodes. Nineteen of these microorganisms were detected by both blood culture and PCR analysis from the same sepsis episode. There was statistically moderate concordance between the two methods ($\kappa=0.445$, $p<0.001$). There was no significant agreement between the blood culture and PCR analysis in terms of microorganism detected ($\kappa=0.160$, $p=0.07$). Comparison of the results of PCR and cultures from focus of infection revealed no significant agreement ($\kappa=0.110$, $p=0.176$). However, comparison of the results of PCR and blood cultures plus cultures from focus of infection (positive blood culture and/or positive culture from focus of infection) showed poor agreement ($\kappa=0.17$, $p=0.026$). When the blood culture was used as the gold standard, the sensitivity, specificity, positive and negative predictive value of PCR in patients with bacteremia was 80%, 69%, 57% and 87%, respectively.

CONCLUSIONS: The SeptiFast may be useful when added to blood culture in the diagnosis and management of sepsis.

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