



Intravenous literature: van der Velden, L.B., Vos, F.J., Mouton, J.W. and Sturm, P.D. (2011) Clinical impact of preincubation of blood cultures at 37C. *Journal of Clinical Microbiology*. 49(1), p.275-80.

Abstract:

The effect of immediate incubation of blood cultures at 37C on the turnaround time and the impact of Gram stain results on antimicrobial management were investigated. During a 6-month period, blood cultures collected at the emergency department outside laboratory operating hours were preincubated at 37C until transportation to the laboratory. Upon the arrival of blood cultures at the laboratory, Gram stains and subcultures were made from all bottles prior to further incubation in the automated system (Bactec 9240). Data from 1 year earlier, when all blood cultures were stored at room temperature, were used for comparison. In the study period, 79 episodes of bacteremia were detected for 75 patients, compared to 70 episodes for 67 patients in the control period. Preincubation of blood cultures at 37C resulted in a 15-h reduction in the median time to reporting of Gram stain results, from 34 to 19 h ($P, <0.001$). With preincubation, 3 episodes (4%) of bacteremia were not detected by the Bactec 9240 system. Based on the reporting of the Gram stain results, appropriate antimicrobial therapy was initiated for 12% of all patients with positive blood cultures, while for 24% the therapy was streamlined. Thus, immediate incubation of blood cultures reduced the time to reporting of Gram stain results. However, not all episodes of bacteremia were detected by the Bactec 9240 system after preincubation at 37C. Blood culture results contributed importantly to appropriate antimicrobial management.

