



We aimed to study the safety and efficacy of PCT in guiding blood culture taking in critically ill patients with suspected infection” van der Geest et al (2016).

Abstract:

Objectives: We aimed to study the safety and efficacy of PCT in guiding blood culture taking in critically ill patients with suspected infection.

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Methods: We performed a cluster-randomized, multi-center, single-blinded, cross-over trial. Patients suspected of infection in whom taking blood for culture was indicated were included.

The participating ICU's were stratified and randomized by treatment regimen into a control group and PCT-guided group. All patients included into this trial followed the regimen which was allocated to the ICU for that period. In both groups blood was drawn at the same moment for a PCT measurement and blood cultures. In the PCT-guided group, blood cultures were sent to the department of medical microbiology when the PCT was above 0.25ng/ml. The main outcome was safety, expressed as mortality at day 28 and 90.

Results: The control group included 288 patients and the PCT-guided group 276 patients. The 28 and 90-day mortality rate in the PCT-guided group was 29% (80/276) and 38% (105/276), respectively. The mortality rate in the control group was 32% (92/288) at day 28 and 40% (115/288) at day 90. The intention to treat analysis showed a hazard ratio of 0.85 (95% CI, 0.62-1.17) and 0.89 (95% CI, 0.67-1.17) for 28-day and 90-day mortality respectively. The results were deemed non-inferior since the upper limit of the 95% CI was below the margin of 1.20.

Conclusion: Applying PCT to guide blood cultures in critically ill patients with suspected infection seems to be safe, but the benefits may be limited.

Trial registration: ClinicalTrials.gov identifier: ID NCT01847079. Registered on 24 April 2013, retrospectively registered.

Full Text

Reference:

van der Geest, P.J., Mohseni, M., Nieboer, D., Duran, S. and Groeneveld, A.B.J. (2016) Procalcitonin to guide taking blood cultures in the intensive care unit; a cluster-randomized controlled trial. *Clinical Microbiology and Infection*. October 13th. .

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