Documents

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Point-of-Care Procalcitonin to Guide the Discontinuation of Antibiotic Treatment in the Intensive Care Unit: A Malaysian Randomised Controlled Trial
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Abstract
Introduction: This work aims to establish the practicality of simple point-of-care (POC) measurements of procalcitonin (PCT) coupled with the standard PCT-guided antibiotic treatment discontinuation algorithm to guide the cessation of antibiotic treatment in intensive care unit (ICU). Methods: In this randomised-controlled trial, 80 adult patients with suspected bacterial infections were randomised to either the POC PCT-guided arm (n = 40) or the standard-of-care arm (n = 40). The decision to discontinue antibiotic treatment in the POC PCT-guided arm was based on the POC PCT-guided antibiotic-treatment discontinuation strategy, which states that discontinuation is urged once the PCT concentration has reduced by ≥ 80% or to < 0.5 ng/mL. In the standard-of-care arm, the antibiotic-treatment duration followed the local guidelines. Results: The median duration of antibiotic treatment was 6.5 [IQR = 5.0-7.0] days in the POC PCT-guided antibiotic-treatment arm versus 7.5 [IQR = 5.0-14.0] days in the standard-of-care arm (p = 0.010). The mean antibiotic-free days in the first 30 days after study inclusion was 20.7 (SD = 5.3) days in the POC PCT-guided antibiotic-treatment arm versus 16.4 (SD = 7.4) days in the standard-of-care arm (p = 0.004). The number of patients who took an antibiotic for more than 10 days was 2 (5%) in the POC PCT-guided antibiotic-treatment arm versus 13 (32.5%) in the standard-of-care arm (p = 0.002). Conclusion: Antibiotic use in patients with symptoms of bacterial infections in the ICU was substantially minimised with the installation of a POC PCT-guided antibiotic-treatment cessation.

Author Keywords
Antimicrobial stewardship; Point-of-care; Procalcitonin; Sepsis

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