



We evaluated the impact of delayed central venous catheter (CVC) removal on clinical outcomes in patients with gram-negative CRBSI” Lee et al (2018).

Abstract:

Background: Gram-negative bacteria are increasingly the cause of catheter-related bloodstream infections (CRBSI), which show a rapidly rising prevalence of multidrug-resistant strains. We evaluated the impact of delayed central venous catheter (CVC) removal on clinical outcomes in patients with gram-negative CRBSI.

Methods: Between January 2007 and December 2016, patients with gram-negative bacteremia and CVC placement, from two tertiary care hospitals, were retrospectively included. Cases with CVC removal > 3 days after onset of bacteremia or without CVC removal were classified as having delayed CVC removal.

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Results: A total of 112 patients were included. Of these, 78 had CRBSI (43 definite and 35 probable), and 34 had gram-negative bacteremia from another source (non-CRBSI). The Enterobacteriaceae were less frequent pathogens in patients with CRBSI than in those with

non-CRBSI (11.5% vs. 41.3%; $P < 0.001$). Delayed CVC removal was associated with increased 30-day mortality (40.5% vs. 11.8%; $P = 0.01$) in patients with gram-negative CRBSI; this was not seen in patients with non-CRBSI (25.0% vs. 14.3%; $P > 0.99$). Delayed CVC removal, multidrug-resistant (MDR) gram-negative bacteremia, and chronic renal failure were associated with 30-day mortality in patients with CRBSI. The protective effect of early CVC removal on mortality was evident in the MDR group (48.3% vs. 18.2%; $P = 0.03$), but not in the non-MDR group (11.1% vs. 0%; $P = 0.43$).

Conclusion: CVCs should be removed early to improve clinical outcomes in patients with gram-negative CRBSI, especially where there is high prevalence of MDR isolates.

Reference:

Lee, Y-M., Moon, C., Jin Kim, Y., Lee, H-J., Suk Lee, M. and Park, K-H. (2018) Clinical impact of delayed catheter removal for patients with central venous catheter-related gram-negative bacteremia. *The Journal of Hospital Infection*. January 9th. .

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