Abstract:

Background: A progressive increase in the incidence of catheter-related bloodstream infection (CRBSI) due to Gram-negative bacilli (GNB) has been reported. Current guidelines recommend antibiotic treatment for at least 7-14 days, although the supporting evidence is limited.

Methods: We performed a retrospective single-centre study including all patients with a definite diagnosis of GNB CRBSI from January 2012 to October 2018 in which the central venous catheter (CVC) was removed. The occurrence of therapeutic failure [clinical failure (persistence of symptoms and laboratory signs of infection), microbiological failure (persistent bacteraemia or relapse) and/or all-cause 30 day mortality] was compared between episodes receiving short [≤7 days (SC)] or long courses [>7 days (LC)] of appropriate antibiotic therapy following CVC removal.

Results: We included 54 GNB CRBSI episodes with an overall rate of therapeutic failure of 27.8% (15/54). Episodes receiving SC therapy were more frequently due to MDR GNB [60.9% (14/23) versus 34.5% (10/29); P = 0.058] and had higher Pitt scores. There were no significant differences in the rate of therapeutic failure between episodes treated with SC or LC therapy [30.4% (7/23) versus 27.6% (8/29); OR 1.15; 95% CI 0.34-3.83; P = 0.822]. The use of SCs was not associated with increased odds of therapeutic failure in any of the exploratory models performed.

Conclusions: The administration of appropriate antibiotic therapy for ≤7 days may be as safe and effective as longer courses in episodes of GNB CRBSI once the CVC has been removed.

Reference: