



## Linezolid for Line Infections

Linezolid is an antibiotic with broad activity against gram-positive organisms, including MRSA and vancomycin-resistant [enterococci](#) (VRE). The 2009 Infectious Diseases Society of America (IDSA) Guidelines for catheter-related bloodstream infections (CRBSI) recommend against linezolid as **empiric** therapy for suspected CRBSI.<sup>1</sup> Should linezolid be avoided in all catheter-related bloodstream infections?

### Where does the concern with linezolid come from?

Linezolid was compared with vancomycin/oxacillin/dicloxacillin for treatment of suspected catheter-related infection in an open label, randomized controlled trial.<sup>2</sup> For suspected gram-negative infections, addition of aztreonam or amikacin was recommended. Linezolid was non-inferior to comparators in microbiologic and clinical success in patients with gram-positive infections at test of cure (1-2 weeks after treatment completion). The intention-to-treat group had a mortality imbalance at 84 days (21.5% in linezolid group vs 16% in control group). A post hoc analysis showed this was largely driven by a subgroup of patients with negative cultures or gram-negative bacteremia at baseline. Less than half of patients with gram-negative pathogens received adequate treatment in both groups.

### Can linezolid ever be used in CRBSIs?

Yes, linezolid can be used for the definitive treatment of CRBSIs caused by gram-positive pathogens. The 2009 IDSA CRBSI guidelines recommend linezolid as a preferred or alternative treatment option for CRBSI due to MRSA, VRE, [coagulase-negative staphylococci](#), and *Corynebacterium* spp.<sup>1</sup> Caution against linezolid is specifically in regard to empiric therapy in suspected CRBSIs.

**Key Takeaway:** Empiric treatment that included linezolid resulted in increased mortality in patients with catheter-related infections with gram-negative bacteremia or negative cultures. It is unclear if linezolid was the cause of this, but due to the availability of alternatives, it is recommended to avoid linezolid as empiric therapy for CRBSI. Linezolid is a recommended option as definitive therapy in CRBSIs due to a gram-positive pathogen.

### References:

1. Mermel LA, Allon M, Bouza E, et al. Clinical practice guidelines for the diagnosis and management of intravascular catheter-related infection: 2009 update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2009; 49(1):1-45. doi: 10.1086/599376.
2. Wilcox MH, Tack KJ, Bouza E, et al. Complicated skin and skin-structure infections and catheter-related bloodstream infections: noninferiority of linezolid in a phase 3 study. *Clin Infect Dis*. 2009; 48(2):203-12. doi: 10.1086/595686.