Kentucky Antimicrobial Stewardship Innovation Consortium

Educational Pearl

Coagulase-Negative *Staphylococcus*: Foe for How Long?

Coagulase-negative *Staphylococci* (CoNS) are a heterogeneous group of different *Staphylococcus* spp. that colonize the skin. CoNS are common blood culture contaminants but CoNS are also the most common cause of catheter-related bloodstream infections (CRBSI).[1] Recommendations for the management of CRBSI due to CoNS are provided in the 2009 Infectious Diseases Society of America CRBSI guidelines. When a CRBSI due to CoNS is diagnosed, what do the guidelines recommend?

Is the CRBSI complicated or uncomplicated?[2]

Distinguishing between complicated and uncomplicated CoNS CRBSI is important to determine duration of therapy. Uncomplicated CoNS CRBSI are those who meet all of the below criteria:

1) Fever resolves within 72 hours
2) No intravascular hardware (e.g., pacemaker, vascular graft)
3) No evidence of endocarditis, suppurative thrombophlebitis, or osteomyelitis

The catheter should be removed in complicated CRBSI and antibiotic duration should be ≥ 4 weeks.

In uncomplicated CRBSI, will the catheter be removed or retained?[2]

If the catheter is removed, antibiotics should be given for 5 – 7 days. The guidelines also alternatively recommend monitoring off antibiotics if the patient has no intravascular or orthopedic hardware, the catheter is removed, and post-removal blood cultures, obtained when the patient is not on antibiotics, are negative.

If the catheter is retained (a.k.a. catheter salvage), systemic antibiotics should be administered with antibiotic lock therapy for 10-14 days. If salvage therapy is failing (e.g,. clinical deterioration or persistent bacteremia), the catheter should be removed and reassessment for complications should be done.

Key Takeaway: Treat uncomplicated catheter-related bloodstream infections due to coagulase-negative *Staphylococci* with antibiotics for 0-7 days, if the catheter is removed. Treat uncomplicated CoNS CRBSI with combination systemic and antibiotic lock therapy for 10-14 days, if the catheter is retained.

References:

1. Safdar N, Mermel LA, Maki DG. The epidemiology of catheter-related infection in the critically ill. In: O'Grady N, Pittet D, eds. Catheterrelated infections in the critically ill. New York, NY: Kluwer, 2004: 1–23
2. 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 [published correction appears in Clin Infect Dis. 2010 Apr 1;50(7):1079. Dosage error in article text] [published correction appears in Clin Infect Dis. 2010 Feb 1;50(3):457]. *Clin Infect Dis*. 2009;49(1):1-45. doi:10.1086/599376

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