Clinical Practice Guidelines for Management of Catheter Related Infections

Short-term central venous catheter (CVC) or arterial catheter (AC) infection – related bloodstream infection

Complicated

Uncomplicated (bloodstream infection and fever resolves within 72 hours in a patient who has no intravascular hardware and no evidence of endocarditis or suppurative thrombophlebitis and for S. aureus is also without active malignancy or immunosuppression)

Suppurative thrombophlebitis, endocarditis or osteomyelitis, etc

Coagulase-negative staphylococci

Remove catheter & treat with systemic antibiotic for 4-6 weeks; 6-8 weeks for osteomyelitis in adults

Staphylococcus aureus

Remove catheter & treat with systemic antibiotic for 5-7 days

If catheter is retained, treat with systemic antibiotic + antibiotic lock therapy for 10-14 days

Enterococcus

Remove catheter & treat with systemic antibiotic for ≥14 days

Remove catheter & treat with systemic antibiotic for 7-14 days

Gram-negative bacilli

Remove catheter & treat with systemic antibiotic for 7-14 days

Candida spp.

Remove catheter & treat with antifungal therapy for 14 days after the first negative blood culture
Long-term central venous catheter (CVC) – or port (P) – related bacteremia or fungemia

Complicated

- Tunnel infection, port abscess
  - Remove CVC/P & treat with antibiotics for 7-10 days

- Septic thrombosis, endocarditis, osteomyelitis
  - Remove CVC/P & treat with antibiotics for 4-6 weeks; 6-8 weeks for osteomyelitis in adults

- Coagulase-negative staphylococcus
  - May retain CVC/P & use systemic antibiotic for 10-14 days & antibiotic lock therapy for 10-14 days
  - Remove CVC/P if there is clinical deterioration persisting or relapsing bacteremia, work-up for complicated infection and treat accordingly

- Staphylococcus aureus
  - Remove the infected catheter and then treat with 4-6 weeks of antimicrobial therapy unless the patient has exceptions listed in Recommendation 80

- Enterococcus
  - May retain CVC/P & use systemic antibiotic for 7-14 days & antibiotic lock therapy for 7-14 days
  - Remove CVC/P if there is clinical deterioration persisting or relapsing bacteremia, work-up for complicated infection and treat accordingly

- Gram-negative bacilli
  - Remove CVC/P & treat for 7-14 days
  - For CVC/P salvage, use systemic & antibiotic lock therapy for 10-14 days; if no response, remove CVC/P, rule out endocarditis or suppurative thrombophlebitis, and if not present treat with antibiotic for 10-14 days

Uncomplicated (Fig. 2)

- Candida spp.
  - Remove CVC/P & treat with antifungal therapy for 14 days after the first negative blood culture
Tunneled HD catheter with suspected CRBSI

- BC from catheter and peripheral vein or bloodline if peripheral vein not feasible

Empiric antibiotics (Table 6) + Antibiotic lock (Table 6)

- Negative blood cultures
  - Stop antibiotics
  - Coagulase-negative staphylococcus: Antibiotic 10–14 days. Retain CVC, continue antibiotic lock OR Guidewire CVC exchange

- Gram-negative bacilli
  - Antibiotics x 10 – 14 days. Retain CVC, continue antibiotic lock OR Guidewire CVC exchange

- Staphylococcus aureus
  - Remove CVC AND antibiotic x 3 wks if TEE is negative

- Candida albicans
  - Guidewire CVC exchange
  - Administer antifungal therapy for 14 days after the first negative blood culture

- Persistent bacteremia fungemia and fever
  - Remove CVC, Administer antibiotics
  - Administer antibiotics x 4-6 weeks, look for metastatic infections (thrombosis, endocarditis)