Suggested management of patients with suspected catheter-related sepsis

1. Initial evaluation:
    a. Evaluate catheter insertion site and culture any drainage
    b. Obtain blood cultures from peripheral vein and central vein catheter
    c. Culture catheter tip, if removed
    d. Look for other potential causes of infection

2. Stop TPN for 48-72 hours

3. Indications for central venous catheter removal:
    a. Purulent discharge or abscess at insertion site
    b. Septic shock without another etiology for the source of infection
    c. Persistent or recurrent catheter-related bacteremia
    d. Candida species or Pseudomonas infection
    e. Polymicrobial infection
    f. S. aureus infection

    If a catheter is "irreplaceable," consider trial of antibiotic therapy with line in place.

4. Antibiotic therapy
    a. Empiric antibiotic therapy with Vancomycin and Cefepime (if gram negative infection suspected) administered through the central venous catheter until culture results are back.*
    b. Specific antibiotic therapy administered through central venous catheter once culture results are available.
    c. Duration of antibiotic therapy usually ranges from 2-6 wks depending on patient, organism and whether central line has been left in place.

5. Repeat blood cultures in 48 and 72 hours to ensure clearance of bacteremia.

6. Fever should resolve within 72-96 h if given appropriate antibiotics; remove catheter if fever persists.

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*The antibiotic lock technique is an alternative approach that has also been successfully used to treat central catheter infections (ref. 39). This approach involves injecting an antibiotic solution (e.g. vancomycin 2 mg/ml) into the central venous catheter lumen and allowing the antibiotic to sit for at least 12 hours.

Adapted from: Klein S. Nutritional Therapy. In: Ahya S, Flood K, Paranjothi S (eds). The Washington Manual of Medical Therapeutics. 30th ed. Philadelphia: Lipincott Williams & Wilkins. 2000:27-42.