Staphylococcus aureus Bacteremia

MOST COMMON MICROORGANISMS
- Methicillin-sensitive Staphylococcus aureus (MSSA)
- Methicillin-resistant Staphylococcus aureus (MRSA)

DIAGNOSTIC CONSIDERATIONS
- All patients should have an echocardiogram to rule out endocarditis, transesophageal echocardiogram (TEE) is preferred
- Identify any indwelling prosthetic devices (e.g. orthopedic hardware, cardiac device) and inspect for infection
- Source and extent of infection should be determined through careful history, physical exam and imaging as needed

MANAGEMENT CONSIDERATIONS
- Infectious Diseases consultation recommended
- Mortality rate: 10-30%
- Remove focus of infection if possible e.g. catheter-associated infection
- Repeat blood cultures q48hours until negative to demonstrate sterilization
- MRSA bacteremia cases with high vancomycin minimum inhibitory concentrations (MIC) ≥ 2 mcg/mL should be referred to Infectious Diseases

EMPIRIC TREATMENT
- Cloxacillin 2 g IV q4h
- Cefazolin 2 g IV q8h (adjust for renal function)
- Vancomycin is recommended if known or at risk of MRSA: injection drug use, abscesses, known MRSA colonization, previous MRSA infection
  - Loading dose: 25 mg/kg total body weight (TBW) IV x 1 followed by
  - Maintenance dose: 15 mg/kg TBW IV q8-12hours (adjust for renal function)
  - Maintain trough level of 15-20 mg/L

ALTERNATIVES FOR ALLERGIES
- Cefazolin 2g IV q8h (adjust for renal function) may be appropriate in patients with history of penicillin allergy as it does not share similar side chain with any penicillin
- Vancomycin IV
- Daptomycin IV – if cannot use beta-lactam or vancomycin
DURATION

- Dependent on presence or absence of complications
- 14 days IV therapy minimum counting from first negative blood culture can be considered if ALL of the following criteria for uncomplicated S. aureus bacteremia are met:
  - Infective endocarditis has been excluded, no implanted prostheses are present, follow-up cultures drawn 2-4 days after initial set are sterile, patient is afebrile within 72 hrs of antibiotic therapy, no evidence of metastatic infection present
- 4-6 weeks IV therapy recommended for all complicated cases

SPECIAL CONSIDERATIONS

- For patients with febrile neutropenia, please see Febrile Neutropenia guidelines for management considerations.

REFERENCES

5. Local Antibiograms http://www.cdha.nshealth.ca/antimicrobial-stewardship-1