Protocol: BICU Antibiotic Stewardship Guidelines

Category: Clinical Practice

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Table of Contents

I. Purpose
II. Background
III. Recommendations
IV. References
I. **Purpose**

To promote appropriate use of antimicrobials and decrease microbial resistance in the burn intensive care unit (BICU).

II. **Background**

The multidisciplinary SICU team employs infection reduction and antibiotic stewardship practices. Such practices have resulted in a dramatic reduction in multidrug resistant pathogens, a significant increase in the percentage of pathogens that are pan-sensitive, and a significant reduction in broad spectrum antibiotic use per patient day.

III. **Recommendations**

1. **Surgical Prophylaxis:**
   a. All antibiotic prophylaxis will be discontinued ≤ 24 hours post operatively
   b. Use narrowest spectrum antibiotics based on type of surgery

2. **Empiric Antibiotic Protocols**
   a. Indication specific empiric antibiotic therapy
   b. Empiric antibiotics driven by unit data and hospital antibiogram
   c. Evidence-based antibiotic treatment durations

3. **Narrowing of Antimicrobial therapy**
   a. De-escalate therapy as soon as possible based on culture results

4. **Organ system specific recommendations**
   a. Intraabdominal infection protocol considerations
      i. Antifungal coverage-please see antifungal protocol
      ii. MRSA coverage: add MRSA coverage when
         1. Prior MRSA infection
         2. Recent hospitalization and/or nursing facility exposure
         3. Intravenous antibiotic use within the past 90 days
   b. Pneumonia protocol considerations
      i. Noninvasive sampling with semiquantitative cultures are recommended to diagnose VAP (deep tracheal aspirate)
      ii. If BAL is performed, cultures with <10^4 CFU/mL should prompt discontinuation of antibiotics
      iii. Consider double gram-negative coverage with tobramycin
         1. Prior intravenous antibiotic use within the past 90 days
         2. Prior multi-drug resistant infections
         3. Septic shock
         4. Failure to improve on current regimen
c. Bacteremia  
  i. MRSA bacteremia should not prompt an ID consult  

d. Burn wound infection  
  i. Follow empiric treatment per the bacteremia guidelines if systemic infection is a concern  
  ii. Defer to surgical team recommendations for superficial burn infections, burn surgery team will use burn wound infection guideline for management  

5. Empiric Antibiotic Rotation for Sepsis  
   a. January to June medication dosing  
      i. Vancomycin: use vancomycin dosing advisor for recommendations  
      ii. Zosyn (piperacillin/tazobactam):  
          1. CrCl > 20 = 3.375mg q8h  
          2. CrCl < 20 = 3.375mg q12h  
          3. Hemodialysis = 3.375mg q12h  
          4. CRRT = 3.375mg q8h  

   b. July to December medication dosing  
      i. Vancomycin: use vancomycin dosing advisor for recommendations  
      ii. Cefepime  
          1. CrCl > 60 = 2grams q8h  
          2. CrCl 30-60 = 2grams q12h  
          3. CrCl 11-29 = 2grams q24h  
          4. CrCl < 11 = 1gram q24h  

6. Empiric Antibiotic Rotation for Abdominal Sepsis  
   a. January to June medication dosing  
      i. Vancomycin: use vancomycin dosing advisor for recommendations  
      ii. Zosyn (piperacillin/tazobactam)  
          1. CrCl > 20 = 3.375mg q8h  
          2. CrCl < 20 = 3.375mg q12h  
          3. Hemodialysis = 3.375mg q12h  
          4. CRRT = 3.375mg q8h
b. **July to December medication dosing**
   i. Vancomycin: use vancomycin dosing advisor for recommendations
   ii. Cefepime
      1. CrCl > 60 = 2grams q8h
      2. CrCl 30-60 = 2grams q12h
      3. CrCl 11-29 = 2grams q24h
      4. CrCl < 11 = 1gram q24h

IV. **References**