Clinical Status Re-evaluation

**Empirical Antibiotic Selection**

**Start Here**

Is there an indication for addition of vancomycin for resistant gram positive coverage? (See Risk Factors)**

Yes

- Vancomycin per pharmacy
- Cefepime 2g IV q8hr E1**

No

- If known colonization or infection with ceftriaxone or cefepime-resistant gram negative organism:  ________________________________________

* Be sure to check for PIA or MSSA vs VRE/CRE/ESBL

**If positive, consider obtaining fungal drug level in infected tissue

Severe β-lactam allergy (i.e. hives, anaphylaxis, SJS, DRESS – consider Allergy/Immunology consult)

- Vancomycin per pharmacy
- Cefepime 2g IV q8hr E1**

Documented infection?

Yes

- Vancomycin per pharmacy
- Cefepime 2g IV q8hr E1**

No

- Decision to discontinue caspofungin (if it was started) should be made in consultation with the ICHS Heme/BMT service

Resolution of fever and clinical improvement by day 4 of antifungal therapy?

Yes

- Consider fungal work-up:
- Consider obtaining antifungal drug level if patient on an antifungal prophylaxis

No

- Consider addition of caspofungin in patients with risk factors for candidemia

In patients with ongoing neutropenia but clinical improvement who remain afebrile for 72 hours, consider narrowing antibiotics to target culture results/infection site**

OR

- Indications for vancomycin to target resistant gram positive organisms**
  - Clinical instability (e.g. hypotension or shock), pending the results of cultures
  - Chest imaging findings consistent with bacterial pneumonia
  - Blood culture with gram positive bacteria matching species/virulence
  - Clinically apparent, serious IV catheter-related infection (i.e. shingles, with or without catheter tip culture findings)
  - Colonization with MRSA or vancomycin-resistant pneumococci
  - Suspected invasive
  - Skin/soft tissue infection (SSTI)

Risk factors for candidemia

- Intra-abdominal infections (including enterocolitis)

Definitive Therapy

In patients with ongoing neutropenia who have resolution of signs/symptoms of infection and have completed an appropriate antibiotic course (see Table 1), consider stopping IV antibiotics or de-escalating to prophylaxis (if indicated)**

OR

- Consider ICHS Heme/BMT consult (Pager#17000)
- Meropenem 1g IV q8hr E1**
- Tobramycin 5.7 mg/kg IV x 1**

Table 1: Duration of Therapy Recommendations

<table>
<thead>
<tr>
<th>Skin/soft Tissue</th>
<th>5-14 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloodstream infection</td>
<td>5-14 days</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>10-14 days</td>
</tr>
<tr>
<td>Bacterial pneumonia</td>
<td>5-14 days</td>
</tr>
</tbody>
</table>

**Febrile neutropenia defined as a temperature ≥ 38.3°C or > 38°C persisting for > 1 hour AND ANC < 500 cells/mm³ or < 1000 cells/mm³ and expected to fall below 500 cells/mm³ in 48 hours

**Requires dose-adjustment for renal insufficiency. See SNC Antimicrobial Dosing Reference Guide for recommendations

** Meropenem may be considered in patients with non-IGIV-mediated allergy to other β-lactams

References:
1. Freifeld CID 2011;52 (4): e56-393
7. Stern Cochrane Database of Systematic Reviews 2019
8. Snyder OFID 2018

Risk factors for anaerobic infection

- Intra-abdominal infections (including enterocolitis)
- Long-term manipulation
- Candida colonization
- Continuous exposure to broad-spectrum antibiotics > 7 days