

Febrile Neutropenia Oncology Care Guideline

Inclusion Criteria:

- Central Line
- Temp $\geq 38.3^{\circ}\text{C}$ orally or $\geq 38.0^{\circ}\text{C}$ for longer than 1hr, ANC < 500 cells/mm³ OR ANC < 1000 cells/mm³ with a predicted decline to 500 cells/mm³ or less over the next 48 hrs
- Presence of shaking chills regardless of temperature

Assessment

- Comprehensive H & P for subtle signs/symptoms, including pain at sites most commonly infected
- Vital signs, continuous pulse oximetry if respiratory signs/symptoms

Interventions

- CBC with differential, CMP
- Blood cultures from each CVAD lumen/port, urinalysis & urine c/s (no cath) for UTI symptoms, stool for *C. difficile* for GI symptoms, RP/PCR if URI signs/symptoms
- Keep all lines open and running
- Assess CVAD site for presence of infection & perform dressing change within 4 hours of admission
- Blood culture q 24 hours while febrile
- CXR if respiratory signs/symptoms; chest CT if abnormal
- Abdominal ultrasound or CT for abdominal pain
- Heparin flush CVAD per protocol
- Assess CVAD site for presence of infection & perform dressing change within 4 hours of admission

Antibiotics – Hemodynamically Stable

- cefepime 50 mg/kg/dose IV q8hr ($<40\text{kg}$) (Max: 2 gm/dose) **OR** aztreonam 50 mg/kg/dose IV q 6 hrs (Max: 2 gm/dose) used in conjunction with vancomycin - if allergic to cephalosporins
- If history of ESBL, consider meropenem

IF indications for empiric vancomycin present - **ADD**

vancomycin 15 mg/kg/dose IV q 6 hrs x 48 hrs (if $\leq 50\text{kg}$) **OR** 1000 mg IV q 8h x 48 hrs (if > 50 kg)

IF typhlitis or *C. difficile* is suspected – ADD
metronidazole 7.5 mg/kg/dose IV or PO q 6hrs (Max: 2 gm/day)

Antibiotics -

Hemodynamically Unstable

(requires fluid boluses or pressors)
meropenem 40mg/kg/dose IV q 8hrs (Max: 2 gm/dose)

AND

vancomycin (x 48 hrs) 15 mg/kg/dose IV q 6 hrs if $\leq 50\text{kg}$ or 1000 mg IV q 8h if > 50 kg

IF *C. difficile* is suspected – ADD metronidazole 7.5 mg/kg/dose IV or PO q 6hrs (Max: 2 gm/day)

Continued Considerations

- Adjust antibiotics based on culture results, clinical course and serum levels.
- Consider Vancomycin levels after 48 hours
- Perform daily site specific exam, review of lab tests & cultures, response to therapy (fever trends & signs/symptoms of infection)
- Evaluate drug toxicity including end-organ toxicity (LFTs/renal function tests 2x/wk)
- **For follow up therapy, duration algorithms & discharge criteria, see page 2.**

Recommendations/Considerations

- Thoroughly assess common sites of infection: GI tract, groin, skin, lungs, sinuses, ears, perineum, perirectal, intravascular access sites.
- Consider stress doses of IV steroids for hypotension if currently receiving steroids or was recently tapered off steroids.
- Administer antibiotics within 1 hour of arrival.
- Central vascular access device care should be performed – *please refer to CHOC Patient Care Policy F832 (Central Vascular Access Device)*

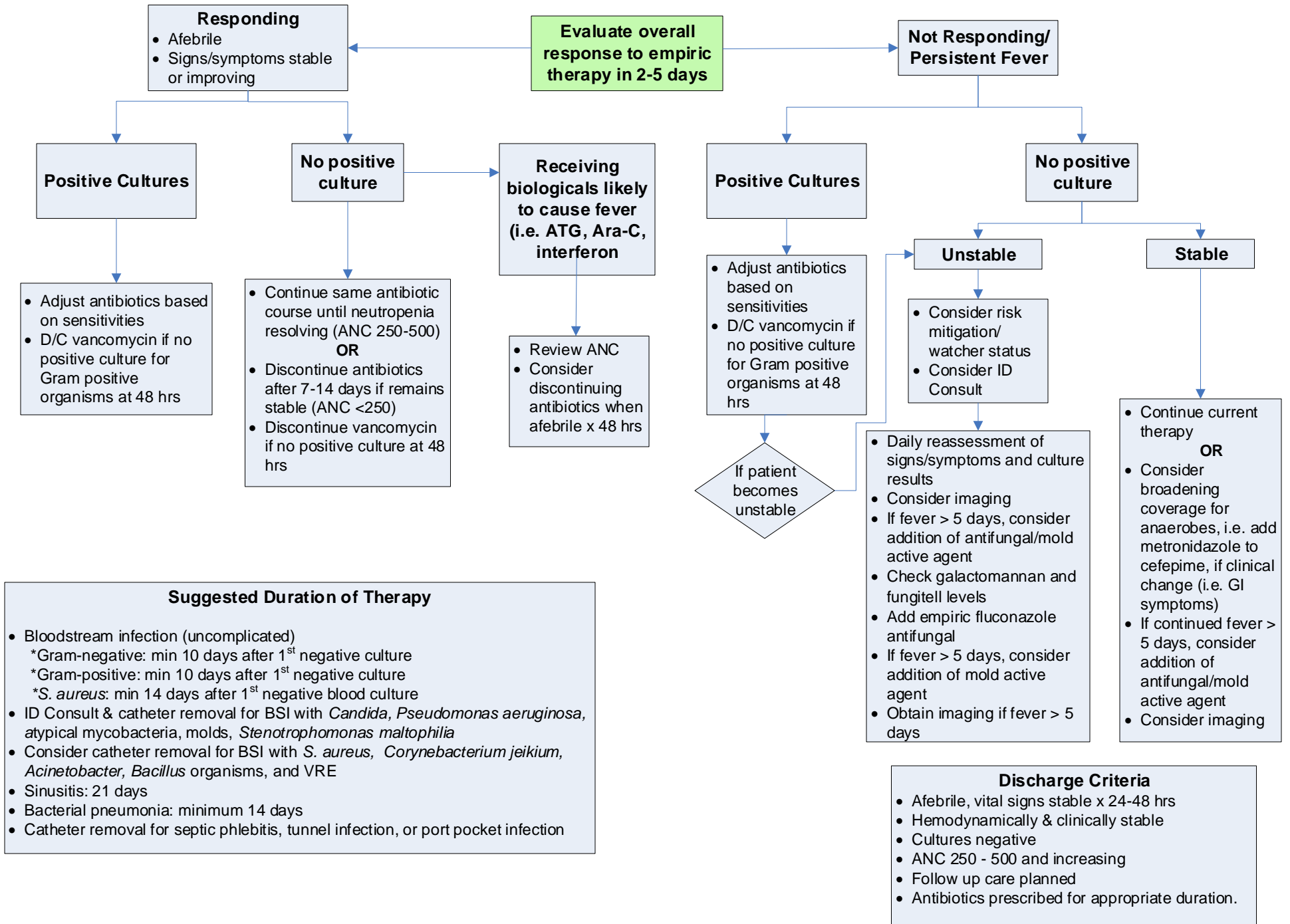
Indications for Empiric Vancomycin Use:

- Blood culture positive for Gram positive bacteria prior to final ID & susceptibility testing
- Known colonization with penicillin/cephalosporin resistant pneumococci or MRSA
- Hypotension or septic shock w/o an identified pathogen
- Received high dose cytarabine recently
- AML
- Soft tissue infection
- Mucositis
- Suspected meningitis
- Cephalosporin allergic

Patient/Family Education

- Review fever guidelines & temperature monitoring
- Review S&S infection
- Review handwashing
- Review prevention of CLABSI

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Suggested Duration of Therapy

- Bloodstream infection (uncomplicated)
 - *Gram-negative: min 10 days after 1st negative culture
 - *Gram-positive: min 10 days after 1st negative culture
 - **S. aureus*: min 14 days after 1st negative blood culture
- ID Consult & catheter removal for BSI with *Candida*, *Pseudomonas aeruginosa*, atypical mycobacteria, molds, *Stenotrophomonas maltophilia*
- Consider catheter removal for BSI with *S. aureus*, *Corynebacterium jeikium*, *Acinetobacter*, *Bacillus* organisms, and VRE
- Sinusitis: 21 days
- Bacterial pneumonia: minimum 14 days
- Catheter removal for septic phlebitis, tunnel infection, or port pocket infection

Discharge Criteria

- Afebrile, vital signs stable x 24-48 hrs
- Hemodynamically & clinically stable
- Cultures negative
- ANC 250 - 500 and increasing
- Follow up care planned
- Antibiotics prescribed for appropriate duration.

References

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