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Clinical Order Set

Demographics

Oncology – Fever and Neutropenia - Adult

Key: Req – Requisition MAR – Medication Administration Record K – Kardex Dis – Discontinued

KEY

Patient Population

– Fever (Temp 38.3°C or greater orally **Or** 38°C or greater tympanic x 1 reading **Or** 38°C or greater orally on 2 readings, 1 hour apart **And** Neutropenia (Absolute Neutrophil Count [ANC] less than 1 x 10^9/L)

– On Active Therapy: Chemotherapy, Radiation Therapy and/or Post-BMT for patients still on immunosuppression or within 1 year of BMT, and active blood cancers with cytopenias

Consults

- Oncology consulted - Dr _____ aware. Page Oncologist with ANC result and clinical assessment

Vitals/Monitoring

- HR, RR, BP, O_2 sats q8h and PRN **Or** _____
- Temp q8h and PRN **Or** _____
- If **UNSTABLE** (↓LOC, ↓BP, ↓Perfusion) HR, RR, BP, O_2 sats – every 15 minutes until stable and consider ICU consult
- No rectal temp, no rectal exam

Investigations

- Access Central line (all lumens/ports) and draw bloodwork. If no Central line then draw peripheral blood work with peripheral intravenous start
- Blood cultures x 2 (one from CVC, if present, plus peripheral blood, or 2 from separate peripheral sites)
- Hematology profile, sodium, potassium, chloride, carbon dioxide total, creatinine, glucose, bilirubin, ALT

☐ Lactate if unstable

- Urine Macroscopic; Urine Culture and Sensitivity
- Chest x-ray
- If Clinically indicated:
  - ☐ Throat swab Culture and Sensitivity
  - ☐ Sputum Gram Stain Culture and Sensitivity
  - ☐ Stool Culture and Sensitivity
  - ☐ Stool for C difficile toxin
  - ☐ Procalcitonin
  - ☐ Wound/Skin culture

Other: _____

IV Fluids

- Start 0.9% sodium chloride IV at _____ mL/h (maintenance)

☐ 0.9% sodium chloride IV bolus _____ mL over _____ minutes

Medications

- No rectal medications
- acetaminophen 500 to 1,000 mg PO q4h PRN FOR FEVER ONLY to a max of 4 g daily from all sources

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Key: **Req** – Requisition **MAR** – Medication Administration Record **K** – Kardex **Dis** – Discontinued

KEY

Antibiotic Therapy – Goal: Within one hour of presentation at hospital

- 1st Antibiotic dose to be given STAT as soon as blood cultures drawn. Do not wait for ANC result

If ANC less than 1 x 10^9/L:

- ADMIT

☐ piperacillin/tazobactam 4.5 g IV q6h

Or

☐ imipenem/cilastin 500 mg IV q6h

For patients with severe beta-lactam (penicillin/cephalosporin) allergy (eg anaphylaxis, angioedema):

☐ clindamycin 600 mg IV q8h

And ☐ ciprofloxacin 400 mg IV q12h

For patients with possible central line infection or suspected MRSA or hemodynamic instability add:

vancomycin dosing guidelines – see Page 3 (dosed on total body weight [TBW])

☐ vancomycin _____ mg IV loading dose (25 mg/kg [TBW] round to nearest 250 mg) then

vancomycin _____ mg IV q _____ h

Subsequent vancomycin dosage adjustments

- As ordered by pharmacist. Target trough 10 to 15 mg/L

Investigations

- Further lab investigations for monitoring vancomycin therapy to be ordered by pharmacist/medical microbiologist

If C. difficile suspected:

☐ vancomycin 125 mg PO q6h x 10 days

Or Chemotherapy induced mucositis or typhlitis make patient NPO:

☐ metroNIDAZOLE 500 mg IV q8h x 10 days

Venous Thromboembolism (VTE) Prophylaxis

☐ dalteparin 5,000 units subcut once daily. Hold if platelets less than 50

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Dosing Guidelines for vancomycin	Clinical Decision Support

ACTUAL Body Weight (kg)	LOADING DOSE (25 mg/kg)	MAINTENANCE DOSE (15 mg/kg)
40 to 50	1250 mg	750 mg
51 to 60	1500 mg	1000 mg
61 to 70	1750 mg	1000 mg
71 to 80	2000 mg	1250 mg
81 to 90	2250 mg	1250 mg
91 to 100*	2500 mg	1500 mg

* For 100 kg and above obtain Pharmacy Consult. **Max 2500mg/dose**

- Algorithm to determine Vancomycin Target TROUGH and Initial Dosing INTERVAL
- For the following infections a higher trough should be targeted (**15 to 20 mg/L**): severe infections due to methicillin-resistant Staphylococcus aureus (MRSA) such as endocarditis, osteomyelitis/deep abscess, pneumonia, meningitis

LOW-TARGET 10 to 15 mg/L

INITIAL DOSING INTERVAL (hours)

SCr mcmol/L	Age Group (years)					
	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79
40-60	8	8	12	12	12	18
61-80	8	12	12	12	18	18
81-100	12	12	12	18	18	18
101-120	12	12	18	18	18	24
121-140	12	18	18	18	24	
141-160	18	24	24	24		
161-180	24	24				
181-200	24					

HIGH-TARGET 15 to 20 mg/L

INITIAL DOSING INTERVAL (hours)

SCr mcmol/L	Age Group (years)						
	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80-89
40-60	8	8	8	8	8 - 12*	12	12
61-80	8	8	8-12*	12	12	12	12-18*
81-100	12	12	12	12	12 - 18*	18	18
101-120	12	12	12 - 18*	18	18	18	18
121-140	12	18	18	18	18	18-24*	
141-160	18	18	18	18 - 24*	24		
161-180	18 - 24*	24	24	24			

* If more aggressive therapy is desired, select more frequent dosing interval

- Shaded boxes: patients have unstable and/or reduced renal function, and the nomogram may not be as predictive;
  For those with an interval stated, patients should receive a loading dose followed by 3 hour and pre-2nd dose serum levels to determine appropriate dosing
  For those with no dosing interval stated, patients should receive a loading dose followed by 3 hour and 24 hour post-dose serum levels to determine subsequent dosing
  A clinical pharmacist should be contacted for assistance with dosing and interpretation of levels