Evidence-Based Clinical Pathway: Neutropenic Fever

Prepared by: Brown L, Gentges J

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Primary Sources: Freifeld, A., et al. Clinical Practice Guideline for the Use of Antimicrobial Agents in Neutropenic Patients with Cancer: 2010 Update by the Infectious Diseases Society of America. Clinical Infectious Diseases 2011;52(4). University of Texas MD Anderson Cancer Center. Neutropenic Fever Inpatient Adult Treatment Protocol. 2011, UT MDACC. Lim, C, et al. Febrile neutropenia in EDs: the role of an electronic clinical practice guideline. AJEM (2012) 30, 5–11.e5. Moon, JM. Predicting the complicated neutropenic fever in the emergency department. Emerg Med J 2009;26:802–806.

MASCC Score	
Asymptomatic or mild symptoms	5
No hypotension (SBP >90mmHg)	5
No COPD w/active symptoms	4
Solid tumor or hematologic malignancy with no previous fungal infection	4
No dehydration requiring IV fluids	3
Moderate symptoms	3
Outpatient status3	
Age <60years	2
Severe symptoms or moribund	0

Pathway applicability:
Adult Patient with Temp >38.3°c or >38°c x 1hr + ANC <500-1K/mm³ **Note**: if sepsis screen is positive (see sepsis screening pathway) enter sepsis pathway

Evaluation:
CBC w/diff, CMP, Lactic Acid, UA, BCx2, CxR. Consider other cultures and studies (LP, viral assays, wound cultures, etc) as indicated.

MASCC Score > 21?, no active comorbidities, hepatic and renal function normal?

Yes

Pt. comfortable with outpatient tx, close f/u, no documented infection, tolerating PO

Yes

Outpatient Antibiotics
Ciprofloxacin 500mg po bid **AND** Amoxicillin/ Clavulanate 500mg po bid

No

No

Inpatient Antibiotics
-Monotherapy:
-Pip/Tazo 4.5 gm IV q6hrs OR
-Cefepime 2 gm IV q8hrs OR
-Ceftazidime
-Meropenem***** 1 gm IV q8hrs
-Double gram-negative coverage**, if indicated:
-Tobramycin 7mg/kg IV daily OR
-Ciprofloxacin 400mg IV q8hrs, if no quinolone prophylaxis
-**If quinolone prophylaxis, add Vancomycin to regimen.**
-***Beta-lactam allergy:*** see "**Beta-lactam allergy**" below

Beta-lactam allergy
Aztreonam 2gm IV q8hrs
PLUS
-Tobramycin 7mg/kg IV q24hrs OR
-Ciprofloxacin 400mg IV q8hrs (if no quinolone prophylaxis)
PLUS
-Vancomycin 15mg/kg IV q12hrs OR
-Linezolid 600mg IV q12hrs OR
-Daptomycin 6-8mg/kg IV q24hrs (if no evidence of pneumonia)

***Consider Meropenem if pt has:**
-allergy to alternative agents
-failed treatment with cefepime or pip/tazo
-infection with ESBL(extended spectrum beta-lactamase) organism
-infection with organism only susceptible to carbapenem

****Double gram negative coverage** should be considered with complicated tissue based infections, neutropenic enterocolitis, pneumonia and perirectal infections. If quinolone prophylaxis, add vancomycin to the regimen.