

Neutropenic Fever Guidelines

Defining neutropenic fever

- Neutropenic fever is defined as a single oral temperature $\geq 101^{\circ}\text{F}$ (38.3°C) or a temperature $\geq 100.4^{\circ}\text{F}$ (38°C) sustained for ≥ 1 hour, with an absolute neutrophil count (ANC) $< 1,500$ cells/ μL .
 - Severe neutropenia is defined as an ANC < 500 cells/ μL , and profound neutropenia is < 100 cells/ μL .
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Initial evaluation and risk assessment

- All patients presenting with fever after cancer treatment should be managed as neutropenic until proven otherwise.
 - Immediate assessment should include vital signs, physical exam, and diagnostic tests like blood cultures and chest X-ray.
 - Patients are classified as high-risk if they have profound neutropenia (< 100 cells/ μL) and/or signs of systemic compromise.
 - The Multinational Association of Supportive Care in Cancer (MASCC) index can be used to formally define risk stratification.
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Initial antibiotic management

- For high-risk patients with neutropenic fever, intravenous antibiotics should be administered within 1 hour of triage and monitored for over 4 hours before discharge. Vancomycin isn't recommended for initial treatment but should be considered for suspected catheter-related infections, skin or soft tissue infections, pneumonia, or hemodynamic instability.
- Empiric antifungal treatment is advised for high-risk patients with persistent fever after 4 to 7 days of a broad-spectrum antibacterial regimen when fungal infection is suspected. Appropriate antibiotics should continue until the absolute neutrophil count (ANC) reaches ≥ 500 cells/ mm^3 or the infection is resolved.
- If patients remain neutropenic after completing treatment, oral fluoroquinolone prophylaxis should resume once all signs of infection are resolved, until marrow recovery.
- Low-risk patients can begin treatment with empirical antibiotics, either orally or intravenously, in an inpatient setting. Those who are clinically stable and have good gastrointestinal absorption may switch from intravenous to oral antibiotics.
- In the outpatient setting, oral empiric therapy with fluoroquinolone plus amoxicillin/clavulanate is recommended for low-risk patients. Ciprofloxacin 500-750 mg every 12 hours and amoxicillin/clavulanate 500 mg every 8 hours is a common regimen.

Supportive care

- Neutropenic patients should follow dietary restrictions to avoid foodborne infections.
 - Hematology and infectious disease consultations should be obtained as needed.
 - Daily monitoring of complete blood counts is recommended to track neutrophil recovery.
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Management of persistent fever

- If fever persists for 3-5 days with ANC >500 cells/ μL , continue current antibiotic regimen until ANC >500 cells/ μL for 4-5 days.
 - If fever persists with ANC <500 cells/ μL , consider adding vancomycin if criteria are met. Reassess for undiagnosed fungal infection.
 - Empiric antifungal therapy may be needed if fever persists for 4-7 days despite antibiotics, especially in high-risk patients.
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Discontinuation of antibiotics

- Antibiotics can be discontinued when the patient is afebrile for ≥ 48 hours, clinically stable, and has an ANC ≥ 500 cells/ μL .
 - For documented infections, duration of treatment is based on the specific organism and site of infection, continuing until resolution of neutropenia.
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References

Guidelines in the management of febrile neutropenia for clinical practice. (2017, December 30). The American Journal of Managed Care. <https://www.ajmc.com/view/guidelines-in-the-management-of-febrile-neutropenia-for-clinical-practice>

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