Emergency Department Evaluation and Management of Fever in Pediatric Oncology Patients with Immunosuppression and Neutropenia

INCLUSION CRITERIA

- Patient age 0-18 with any of the following:
  - An oncologic diagnosis with immunosupression
  - Post-bone marrow transplantation
- Fever greater than or equal to 100.4F for 1 or more hours OR twice in a 24 hour period
- Any temperature greater than or equal to 101F, regardless of duration

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- Check Epic for presence of Access Center note regarding Hematology/Oncology Attending Instructions
- Review vitals, including blood pressure, for evidence of circulatory instability
- Obtain
  - CBC with differential
  - Blood culture (from port and/or from all lumens of central catheter lines)
- Consider
  - CXR if respiratory symptoms
  - UA and Urine Culture for UTI symptoms (Do not catheterize for sample)
  - Further studies as indicated based on symptoms

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ADMINISTER IV ANTIBIOTICS WITHIN 60 MINUTES
Administer after cultures have been obtained, do not wait for labs to result

- IV Ceftriaxone 50 mg/kg, max dose 2000mg
- Cephalosporin allergy:
  - IV meropenem 20 mg/kg (max 1000mg) every 8 hours
- May also consider Meropenem in patients with known history of infections with resistant organisms (such as ESBL gram negative bacteria)

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Discuss Results and Disposition with Hematology/Oncology Attending

ADMISSION

- ANC ≤ 500 OR ≤ 1000 and dropping from prior
- If Neutropenia confirmed
  - Give IV cefepime 50 mg/kg (max 2000mg per dose) every 8 hours
  - Modify dose as appropriate for history of renal impairment
- Discuss addition of other labs and antibiotics per patient's symptoms and discussion with Hematology/Oncology Attending

DISCHARGE

- Discuss discharge planning, including follow-up, with Hematology/Oncology Attending

SSMHealth Cardinal Glennon
Access Center Transfer Line
888-229-2424

1. SSMHealth Cardinal Glennon CPG Home

2. Resources
a. Burry E, Punnett A, Mehta A, et al. Identification of Educational and Infrastructural Barriers to Prompt Antibiotic Delivery in Febrile Neutropenia: A Quality Improvement Initiative. *Pediatric Blood Cancer*. 2012;59:431-435.
b. Fletcher M, Hodgkiss H, Zhang S, et al. Prompt Administration of Antibiotics is Associated with Improved Outcomes in Febrile Neutropenia in Children with Cancer. Pediatric Blood Cancer. 2013;60:1299-1306.
c. Freifeld AG, Bow EJ, Sepkowitz KA, et al. Clinical Practice Guideline for the Use of Antimicrobial Agent in Neutropenic Patients with Cancer: 2010 Update by the Infectious Diseases Society of America. *Clinical Infectious Diseases*. 2011;54(4):e59-e93.
d. Volpe D, Harrison S, Damian F, et al. Improving Timeliness of Antibiotic Delivery for Patients with Fever and Suspected Neutropenia in a Pediatric Emergency Department. *Pediatrics*. 2012;130:e201-210.
e. Almatrafi MA, Dassner AM, Aquino V, et al. Retrospective Observational Assessment of the Impact of Cefepime Prophylaxis in Neutropenic Pediatric Patients with Acute Myelogenous Leukemia. *Journal of the Pediatric Infectious Diseases Society*. 2023; 12(8): 471-476.
f. Lehrnbecher T, Robinson PD, Ammann RA, et al. Guideline for the Management of Fever and Neutropenia in Pediatric Patients with Cancer and Hematopoietic Cell Transplantation Recipients: 2023 Update. *J Clin Oncol*. 2023; 41(9): 1774-1785.

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On behalf of the Division of Pediatric Hematology and Oncology

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