Recommendations for Evaluation of the Febrile Neutropenic Patient

1. Febrile neutropenia is an oncological emergency.
2. Empiric broad-spectrum antibiotic therapy must be initiated as soon as possible (within 60 minutes of triage).
3. A source of infection may be found in less than one third of patients.
4. In febrile neutropenic patients, signs and symptoms of infection may be minimal or absent.
5. Timely PHYSICAL EXAMINATION is indicated, including a thorough review of systems:

    - Vital signs: temperature, blood pressure, heart rate, respiratory rate
    - Fluid status
    - CNS, including meningismus
    - Sinuses
    - Oral mucosa, including mucositis or dental disease
    - Pharynx
    - Lower esophagus
    - Lungs
    - GI tract and perineum
    - Abdominal and GU exam
    - Dermatological exam, including nails
    - Vascular access site/device exam

6. INVESTIGATIONS must be thorough, including:

    - CBC and differential
    - Liver function tests and bilirubin
    - Electrolytes, BUN and creatinine
    - Lactic acid, if the patient is hemodynamically unstable
    - Two sets of Blood cultures, within one hour of each other, from two different sites, including one set from the central line (if one is in situ) and one set from a peripheral vein site. If a central line is not present, two sets of blood cultures should be taken from two different peripheral veins. For positive blood cultures, daily blood cultures should be drawn for three days and then reassessed.
    - Urinalysis and culture
    - A chest x-ray is recommended, if the patient has respiratory symptoms or if outpatient treatment is being considered
    - Other investigations may include oxygen saturation, sputum culture, stool culture, skin/wound culture, and/or lumbar puncture, when indicated.

References:

1. Freifeld AG, Bow EJ, Sepkowitz KA, 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. Clin Infect Dis 2011;52(4):e56-e93.
2. Flowers CR, Seidenfeld J, Bow EJ, et al. Antimicrobial prophylaxis and outpatient management of fever and neutropenia in adults treated for malignancy: American Society of Clinical Oncology clinical practice guideline. J Clin Oncol 2013;31(6):794-810.
3. in:DN Gilbert, RC Moellering Jr, GM Eliopoulos, HF Chambers, MS Saag (Eds.). The Sanford Guide to Antimicrobial Therapy 2013. 43rd ed. Antimicrobial Therapy, Inc. Sperryville, VA; 2013.

4. National Comprehensive Cancer Network (NCCN). (2013). Prevention and Treatment of Cancer-Related Infections v.1. Retrieved May 26th, 2014, from http://www.nccn.org/professionals/physician_gls/pdf/infections.pdf.
5. Bow E, Wingard JR. Overview of neutropenic fever syndromes. In: UpToDate, Marr KA , Thorner AR (Eds), UpToDate, Waltham, MA. (Accessed on May 26th, 2014).
6. Wingard JR. Treatment of neutropenic fever syndromes in adults with hematologic malignancies and hematopoietic cell transplant recipients (high-risk patients). In: UpToDate, Marr KA, Thorner AR (Eds), UpToDate, Waltham, MA. (Accessed on October 9th, 2014).
7. Klastersky J, Paesmans M, Rubenstein EB, et al. The Multinational Association for Supportive Care in Cancer risk index: A multinational scoring system for identifying low-risk febrile neutropenic cancer patients. J Clin Oncol 2000;18(16):3038-51.

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Disclaimer

Both the format and the content of the guidelines will change, as they are reviewed and revised on a periodic basis. Any physician using these guidelines to provide treatment for patients will be solely responsible for verifying the doses, providing the prescriptions and administering the medications described in the guidelines according to acceptable standards of care.