

Timely Assessment and Management of Febrile Neutropenia

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It's almost time for JADPRO Live in Seattle this October. The meeting promises to be another packed 4 days of focused and relevant education for the advanced practitioner (AP). I hope to see you there!

MANAGEMENT OF FEBRILE NEUTROPENIA

Assessment and management of patients experiencing an oncologic emergency is a frequent role for oncology advanced practitioners. These emergencies require rapid assessment, diagnosis, and follow-up, and APs are uniquely positioned to perform those assessments and care.

One of the most commonly seen emergencies is febrile neutropenia, a condition usually related to cancer therapy, particularly chemotherapy. Delivering needed antibiotic therapy in a timely manner is essential for optimal patient outcomes. The current American Society of Clinical Oncology (ASCO) guidelines call for the assessment of patients at risk for febrile neutropenia quickly (within 15 minutes) after triage if presenting within 6 weeks of receiving chemotherapy. Additionally, the first dose of empirical therapy should be administered within 1 hour after triage

from the initial presentation of the patient to clinic or the emergency room (Taplitz et al., 2018).

In one study published by Peron, Emara, and Ahmed in 2014, adult cancer patients with febrile neutropenia were hospitalized at a tertiary care hospital. Patients were assessed using the Multinational Association of Supportive Care in Cancer (MASCC) risk score and placed into high- and low-risk groups.

Patients in the high-risk group received a median time to antibiotic administration of 2.5 hours with a median stay of 6 days in hospital. The study demonstrated that a delay in antibiotics administration was associated with a longer hospital stay. Earlier administration of antibiotics has also been associated with higher survival rates in patients with febrile neutropenia. In one prospective study of febrile neutropenic patients, the ideal time to administration of antibiotics was within 30 minutes after the onset of febrile neutropenia with a demonstrated reduction in risk of mortality compared with the typical target time of 1 hour for antibiotic administration (Rosa & Goldani, 2014).

The foundation of management of patients with febrile neutropenia is rapid assessment and timely em-

piric antibiotic delivery; this approach is critical to improved patient outcomes, and APs play an important role in the management of these patients. Empirical regimens and aggressive therapy are essential to improve patient responses in this setting (Sahai et al., 2017).

This issue's Review article highlights the importance of initial antibiotic treatment for febrile neutropenia in patients receiving hematopoietic stem cell transplantation, a condition in which patients can suffer serious morbidity and mortality. As stated previously, current guidelines suggest early antibiotic coverage with a broad-spectrum β -lactam antibiotic is the standard for initial therapy, but not all patients can receive them. β -lactam antibiotics are the drugs of choice for high-risk cancer patients with neutropenic fever, but what if your patient is penicillin allergic or intolerant to β -lactam agents? Steven Trifilio, RPh, and Jayesh Mehta, MD, discuss the results of their observational study to report on the efficacy of aztreonam with vancomycin in this patient population.

OTHER FEATURES IN THIS ISSUE

In this issue, we also present the results of two quality improvement projects. Jordan Gabrielsen, PharmD, and colleagues discuss the role of somatostatin analogues in the long-term treatment of neuroendocrine tumors and the special precautions APs should be aware of when caring for these patients. Stephanie Soulia, ANP, and colleagues share the results of a survivorship care plan program in a community-based oncology clinic that demonstrated satisfaction from patients enrolled.

Our Practice Matters feature focuses on a topic of importance to APs. A cancer diagnosis affects not only the patient, but the family and caregiver as well. Amy Hacker-Prietz, PA-C, and colleagues discuss the success of an oncology couples' retreat program that meets annually for patients and families with an oncology gastrointestinal diagnosis.

For those of you who have cared for a patient with pregnancy-associated breast cancer, you'll

find the Grand Rounds article by Bernadette Labriola, RN, MSN, FNP-C, informative and helpful. Breast cancer, the second most common cancer during pregnancy, requires a multidisciplinary approach for optimal outcomes.

We present two Prescriber's Corner articles for you this issue. Laura Cannon, PharmD, MPH, and colleagues discuss the important role of the PI3K pathway in cancer pathophysiology and cell signaling and cellular responses, including its role in current drug development. Advanced practitioners caring for patients undergoing hematopoietic cell transplantation will find the article by Kori Daniels, PharmD, and Amber Clemmons, PharmD, BCOP, of interest as they discuss the use of letermovir for cytomegalovirus prevention in that patient population.

And last, but certainly not least, I'm sure you will enjoy this issue's Diagnostic Snapshot in which Elizabeth Wolf, PA-C, discusses a curious case of a left renal infiltrate in a young healthy woman. The challenges of creating a differential diagnosis are presented with several radiologic studies. You might be surprised at the patient's actual diagnosis! ●

References

- Perron, T., Emara, M., & Ahmed, S. (2014). Time to antibiotics and outcomes in cancer patients with febrile neutropenia. *BMC Health Services Research*, *14*, 162. <https://doi.org/10.1186/1472-6963-14-162>
- Rosa, R. G., & Goldani, L. Z. (2014). Cohort study of the impact of time to antibiotic administration on mortality in patients with febrile neutropenia. *Antimicrobial Agents and Chemotherapy*, *58*(7), 3799–3803. <https://doi.org/10.1128/AAC.02561-14>
- Sahai, T., Hauser, N., Mukkamalla, S. K. R., Menendez, A. G., Roberts, T. F., & Tandon, R. (2017). Outcomes of febrile neutropenia following hematopoietic stem cell transplantation. *Journal of Clinical Oncology*, *34*(15 suppl). https://doi.org/10.1200/JCO.2016.34.15_suppl.e18562
- Taplitz, R. A., Kennedy, E. B., Bow, E. J., Crews, J., Gleason, C., Hawley, D. K., ... Flowers, C. R. (2018). Outpatient management of fever and neutropenia in adults treated for malignancy: American Society of Clinical Oncology and Infectious Diseases Society of America Clinical Practice Guideline Update. *Journal of Clinical Oncology*, *36*(14), 1443–1453. <https://doi.org/10.1200/JCO.2017.77.6211>