

Immuno-Oncology Essentials: An Overview

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Author's disclosures of conflicts of interest are found at the end of this article.

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We are honored to share with you this supplement entitled *Immuno-Oncology Therapy Essentials: Proactive Management of Immune-Related Adverse Events*. Immunotherapy with immune checkpoint inhibitors (ICIs) has remarkably revolutionized cancer care, improving outcomes for many patients with diverse tumor types. The awarding of the 2018 Nobel Prize in Medicine to two of the scientists involved with ICI development, James P. Allison and Tasuku Honjo, is a testament to this fact. The impact of ICIs is likely to continue to expand, as these therapies are used in an ever-growing array of tumor types and in different combination approaches.

Imperative to the continued growth of immunotherapy is the streamlined incorporation of these regimens into day-to-day oncology practice. Many of the advanced practice providers (APPs) who were involved with the clinical development of ICIs gained essential experience in identifying, grading, and managing the immune-related adverse events (irAEs) associated with these therapies. We recognized early on that these irAEs differed tremen-

dously from the side effects associated with chemotherapy in terms of onset, presentation, and management. As such, a group of us working in the field of melanoma collaborated in 2016 and developed working schemas for irAE management under the leadership of AIM at Melanoma and Terranova Medica. We formalized an advisory group, the Melanoma Nursing Initiative (MNI), and developed practical tools for irAE side-effect management, as found on themelanomanurse.org. Resources included the Care Step Pathways (CSPs), individual drug toolkits, patient action plans, side-effect search tools for triage and in-office management of symptoms, as well as a discussion forum.

The MNI resources were well received and highly utilized, and soon after their development we recognized that oncology care providers outside of the melanoma specialty were using the materials as well. To contextualize the application of these resources for different cancers, we convened the AIM With Immunotherapy Immuno-Oncology Essentials (IO Essentials) faculty in 2018 to adapt and enhance MNI materials across tumor types. This group of expert APPs, in conjunction with Dr. Eric Whitman of Atlantic

Health System, thoughtfully evaluated the existing MNI materials and created updated tumor-specific content. The IO Essentials resources include enhancements such as health-care provider videos as well as patient-directed videos. We are pleased to have joined forces with many preeminent advocacy organizations, such as Bonnie Addario Lung Cancer Foundation and the Lymphoma Research Foundation, for distribution of the patient materials. Please see the full offerings of the IO Essentials at aimwithimmunotherapy.org.

This supplement has been developed to demonstrate the use of the MNI and IO Essentials materials across tumor types, highlighting irAE management challenges and opportunities for APPs to lead the charge in optimizing care. The first article, which I coauthored with Krista M. Rubin, MS, FNP-BC, from Massachusetts General Hospital, discusses steps APPs can take to optimize irAE management and reduce unplanned hospital admissions through enhanced telephone triage and incorporation of dedicated oncology acute care tactics. In the next article, Marianne J. Davies, DNP, MSN, RN, APRN, CNS-BC, ACNP-BC, AOCNP®, of Yale University, discusses the incorporation of ICIs in the treatment of lung cancer, with a focus on four specific irAEs, one of which, pneumonitis, is challenging to address in this patient population. The next article, addressing irAE management in head and neck squamous cell carcinoma (HNSCC), is authored by Casey Fazer, PA-C, from the Mayo Clinic. In her article, she provides specialized management information for the HNSCC patient population, including discussion of nutrition and the identification and management of irAE thyroiditis and mucositis/xerostomia, which are frequent comorbidities affecting HNSCC patients. The final article addresses irAEs across a wider swath of tumor types and is authored by Laura S. Wood, RN, MSN, OCN®, of the Cleveland Clinic. With her expertise in renal cell carcinoma, Laura provides a detailed discussion of the recognition and management of nephritis in this population along with other irAEs.

The supplement includes a separate Appendix with all 12 of the CSPs developed by the IO Essentials group. These CSPs have been updated to incorporate recent guidance from the National Comprehensive Cancer Network and the

American Society of Clinical Oncology/Society for Immunotherapy of Cancer on irAE management. We designed these CSPs to work across tumor types, and each of them is discussed in detail in the supplement articles. The CSPs can also be downloaded from the IO Essentials website (aimwithimmunotherapy.org/care-step-pathways).

Both the manuscripts and the CSPs offer information regarding the recommended use of corticosteroids in the setting of irAEs. To our knowledge, such use has not been associated with decreased efficacy of ICIs. Corticosteroids are also commonly used as premedications for treatment regimens containing both ICI and chemotherapy but are not required for single-agent ICI. Again, in this setting, no definitive evidence indicates whether corticosteroid use as premedication negatively impacts the efficacy of ICIs. However, baseline corticosteroid administration for patients with preexisting conditions such as autoimmune disorders, cerebral edema secondary to central nervous system disease, or cancer-related pain remains controversial. Recent evidence suggests that baseline corticosteroid use ≥ 10 mg prednisone per day may be associated with poorer treatment outcomes in patients receiving programmed cell death protein 1 (PD-1) and programmed cell death ligand 1 (PD-L1) inhibitors (Arbour et al., 2018). These distinctions should be kept in mind when evaluating the use of corticosteroids in this patient population.

We hope you find this supplement and the IO Essentials tools helpful in the increasingly complicated care of patients receiving ICI therapy. Advanced practice providers have demonstrated strength and leadership in owning the management of irAEs, and we hope to continue to support you in this crucial component of cancer care. ●

—Brianna Hoffner, MSN, ANP-BC, AOCNP®
Guest Editor

Disclosure

Ms. Hoffner has served on advisory boards for Bristol-Myers Squibb and Merck.

Reference

Arbour, K. C., Mezquita, L., Long, N., Rizvi, H., Auclin, E., Ni, A.,...Hellmann, M. D. (2018). Impact of baseline steroids on efficacy of programmed cell death-1 and programmed death-ligand 1 blockade in patients with non-small-cell lung cancer. *Journal of Clinical Oncology*, 36(28), 2872–2878. <https://doi.org/10.1200/JCO.2018.79.0006>