

Checkpoint Inhibitors

Common immune-related adverse events and their management

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BACKGROUND: Immunotherapy, specifically the use of checkpoint inhibitors, offers patients with cancer an alternative to chemotherapy, targeting different pathways to destroy cancer cells. The side effects of immunotherapies, as well as their impact on normal tissue, need to be assessed and managed based on their mechanisms of action.

OBJECTIVES: This article presents an overview of immune-related adverse events (AEs).

METHODS: Common immune-related toxicities, as well as rare and refractory toxicities, are reviewed.

FINDINGS: Immunotherapy treatment is an option for many patients with cancer, and nurses must understand the distinct side effect profile of these agents. Prompt identification and expert management are the cornerstones of success when dealing with immune-related AEs, and oncology nurses play a key role in improving patient care.

ADVANCES IN CANCER THERAPY INCLUDE THE USE OF IMMUNOTHERAPY, specifically checkpoint inhibitors (CIs). This approach offers patients with cancer an alternative to traditional chemotherapy. The arsenal of CIs has increased and includes drugs in three different classes: anti-cytotoxic T lymphocyte-associated antigen 4 (CTLA-4), anti-programmed cell death protein 1 (PD-1), and anti-programmed death ligand 1 (PD-L1) (see Figure 1). Because chemotherapy and immunotherapy target different pathways to destroy cancer cells, their side effects and impact on normal tissue need to be assessed and managed based on their mechanisms of action.

Common Immune-Related Toxicities

For patients receiving immunotherapy, these side effects are termed immune-related adverse events (AEs). Successful management of immune-related AEs requires standardized grading, such as with use of the Common Terminology Criteria for AEs (see Table 1). In addition, management almost always requires some level of immunosuppression, such as with corticosteroids. Nurses are in an ideal position to identify and manage these toxicities and educate patients about potential immune-related AEs. Education should focus on early detection and reporting to ensure successful outcome following an immune-related AE.

Colitis and Diarrhea

PRESENTATION AND ASSESSMENT

Immunotherapy-induced colitis is one of the most frequent immune-related AEs related to CIs and occurs from autoimmune-related inflammation of normal intestinal tissue (Spain, Diem, & Larkin, 2016). It often presents with frequent, watery bowel movements (BMs). Occasionally, patients may also experience abdominal cramping, or blood or mucus in the stool (Linardou & Gogas, 2016). In other situations, patients may have an incidental finding on routine radiology testing consistent with colitis prior to symptoms developing. Immune-related gastrointestinal inflammation most often occurs in the descending colon (Kaehler et al., 2010), and microscopic analyses show a mixture of inflammatory cell infiltration, including neutrophils and lymphocytes.

KEYWORDS

cancer immunotherapy; immune-related adverse events; checkpoint inhibitors

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