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IMMUNE EFFECTOR CELL THERAPIES: CONSIDERATIONS FOR THE ADVANCED PRACTICE PROVIDER

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Biography

Robert David Rice is the Director of Nursing Education, Evidence Based Practice, and Research at City of Hope National Medical Center in Duarte, CA. He joined City of Hope in July 2013. He and his staff develop and apply cross-disciplinary education programs to keep clinical providers current on evidence-based best practices, clinical techniques, standards, and emerging technologies unique to their clinical discipline. His clinical and research interests include hematologic malignancies, hematopoietic cell transplantation, cancer chemotherapy / immunotherapy, immuno-oncology, psycho-oncology, healthcare disparities, and improving the quality of cancer care for LGBT patients and families. He participates in national consortia of comprehensive cancer centers which address quality initiatives, nurse sensitive indicators (establishing a national benchmark for the incidence of vesicant chemotherapy extravasation), and developing a core curriculum to train nurses in safe chemotherapy administration.

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The allogeneic graft-versus leukaemia effect was first suggested in 1956 and allogeneic transplant is the original immunotherapy. With the continued evolution of immunotherapy since 1970s and progressively better understanding of T cell biology, the treatment paradigms for numerous malignant and non-malignant diseases have dramatically changed. The understanding of innate and adaptive immunity, genomic profiling, cell mutations, biomarkers, effector cells, co-stimulatory molecules, viral vectors and oncogenes, expression of programmed death genes and checkpoint inhibitors, ongoing clinical trials continue worldwide as single agents and in combination. Understanding the tumor microenvironment, tumor-derived factors, and the microbiome also influence the development of therapeutics. Immune effector cellular therapy also continues to advance with classic T cell receptors and chimeric antigen receptor T cells (CART) manufactured from the patient's own T cells which are genetically modified, returned to the patient, and cause an immune response whereby the T cells attack the patient's cancer. Many of these therapies will be used in combination, in sequencing, and with more traditional forms of treatment, such as chemotherapy, radiation therapy, and hematopoietic cell transplantation. With an aging population and increasing incidence of cancer, the workforce demands cannot be met by medical oncologists and hematologists alone. Advanced practice providers (APP) and oncology nurses will be ideally situated to care for this vulnerable population of patients who are living longer with the new therapies, but have the potential for substantial immune-related side effects (irAE) and symptom expression, the potential for unanticipated autoimmune expression, and the potential for debilitating financial toxicity. Intensive patient and family education, prompt recognition of irAEs, and multi-specialty, collaborative approach to patient management will be the key to safely helping patients on their challenging journeys.