Has the Emperor Met His Match?

In the 2015 Ken Burns documentary, *Cancer: The Emperor of All Maladies*, based on Siddhartha Mukherjee’s *The Emperor of All Maladies*, the 2011 nonfiction award-winning biography about cancer, we are introduced to the first pediatric patient who received an experimental cellular therapy at Children’s Hospital of Philadelphia (Penn Medicine News, 2015). The outcomes for that patient, initially treated in 2012 and now almost seven years into survivorship, led to the development of clinical trials with commercially developed chimeric antigen receptor (CAR) T-cell products.

In 2017, tisagenlecleucel (Kymriah®) became the first CAR T-cell therapy approved by the U.S. Food and Drug Administration (FDA, 2017a), quickly followed by axicabtagene ciloleucel (Yescarta®) (FDA, 2017b). These approvals were the hallmark of what is described as a living drug, the use of genetically modified T cells to treat cancer (Fesnak, June, & Levine, 2016). In the continuing context of expanding indications and anticipated new agents in this drug class, oncology nurses and the care they provide are pivotal in the rapid and exciting expansion of cancer treatment. From the ongoing development of clinical trials to the first cohort of authorized centers for CAR T-cell administration, oncology nurses are making significant contributions to the clinical and operational management, as well as the science.

This supplement to the *Clinical Journal of Oncology Nursing (CJON)* features trailblazing work by oncology nurses and their interprofessional colleagues from across the country. They represent many of the institutions that are leading clinical trials, have developed guidelines for practice, and have established CAR T-cell delivery programs. This supplement builds on foundational work, presented in the April 2017 CJON immunotherapy supplement (https://bit.ly/2nDj1wF), during a time when CAR T-cell therapies were not yet approved by the FDA.

In the short window since FDA approval in 2017, a growing body of clinical experience now exists from the 160 programs authorized, as of February 2019, to expand CAR T-cell therapies without regulatory oversight.

"Nurses from a variety of practice areas will provide evidence-based CAR T-cell therapy care."

This supplement underscores the criticality of care coordinated by nurses from a variety of practice areas across the country, and have established CAR T-cell delivery programs. This supplement builds on foundational work, presented in the April 2017 CJON immunotherapy supplement (https://bit.ly/2nDj1wF), during a time when CAR T-cell therapies were not yet approved by the FDA.

In addition, with survivors of the first clinical trials still within 10 years of their initial treatment, a foundation for practice has formed around the physiologic and psychosocial status and needs of pediatric and adult CAR T-cell therapy survivors. Of particular concern are late treatment effects, psychosocial implications, and the impact of financial toxicities. For pediatric and adult survivors, these pertinent issues are covered in Callahan et al. (2019) and Buitrago, Adkins, Hawkins, Iyamu, and van Oort (2019), respectively.

While the science of CAR T-cell therapy and its FDA-approved agents and indications evolve, oncology nurses remain instrumental in the care of these patients. That care encompasses the conduct of clinical trials, safe delivery of treatment, evidence-based monitoring, care coordination, and survivorship. Robust opportunities for nurse-led research and scholarship abound, focusing on the experience of patients undergoing this therapy, as
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REFERENCES

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