

## How to evaluate and manage complications after CAR-T therapy

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#### Aim/Introduction:

Since the first approval of CAR-T therapy by the FDA/US in 2017 and the PMDA/Japan in 2019, several CAR-T therapies have been approved. CAR-T therapy has had a dramatic impact on the therapeutic landscape for pediatric B-ALL, NHL, and MM. However, unlike conventional chemotherapy, different profiles of complications such as CRS and ICANS have been experienced after CAR-T therapy, and establishment of evaluation methods and clinical management of these complications are strongly needed. In this Meet the Expert session, we will discuss with Dr Pasquini how to evaluate and manage complications specific to CAR-T therapy.

#### Expert

Name/title: Marcelo C. Pasquini, MD, MS / Professor

Affiliation: Medical College of Wisconsin/Center for International Blood and Marrow Transplant Research, Milwaukee, Wisconsin

#### Brief self-introduction:

I am transplant and cellular therapy physician focused on multiple myeloma and other allogeneic transplants for hematologic malignancies. My research focus is the application of CAR T cells for treatment of cancer and their respective safety and effectiveness outcomes. I oversee the cellular therapy registry and operations at the CIBMTR and work in implementing and conducting post market CAR T cells long term follow up protocols.

#### Related publications:

- 1) Pasquini MC, Hu ZH, Curran K, et al. Real-world evidence of tisagenlecleucel for pediatric acute lymphoblastic leukemia and non-Hodgkin lymphoma. *Blood Adv.* 2020 Nov 10; 4(21): 5414-5424.
- 2) Lee DW, Santomaso BD, Locke FL, et al. ASTCT Consensus Grading for Cytokine Release Syndrome and Neurologic Toxicity Associated with Immune Effector Cells. *Biol Blood Marrow Transplant.* 2019 Apr; 25(4): 625-638.
- 3) Jacobson CA, Locke FL, Ma L, Asubonteng J, Pasquini MC, et al. Real-World Evidence of Axicabtagene Ciloleucel for the Treatment of Large B Cell Lymphoma in the United States. *Transplant Cell Ther.* 2022 Sep; 28(9): 581. e1-581.e8.

#### Facilitator

Name/title: Junya Kanda, MD, PhD / Associate Professor

Affiliations: Department of Hematology and Oncology, Kyoto University

#### Brief self-introduction:

I specialize in allogeneic transplantation and cell therapy. My research focus on donor selection for allogeneic transplantation and the impact of HLA mismatch and donor source on transplantation-related complications, relapse, and survival.

#### Related publications:

- 1) Kato K, Fujii N, Makita S, Goto H, Kanda J, et al. A phase 2 study of axicabtagene ciloleucel in relapsed or refractory large B-cell lymphoma in Japan: 1-year follow-up and biomarker analysis. *Int J Hematol.* 2022 Nov 18. In Press.
- 2) Wada F, Jo T, Arai Y, Kitawaki T, Mizumoto C, Kanda J, et al. T-cell counts in peripheral blood at leukapheresis predict responses to subsequent CAR-T cell therapy. *Sci Rep.* 2022 Nov 4; 12(1): 18696.
- 3) Nakamura N, Arai Y, Kitawaki T, Jo T, Mizumoto C, Kanda J, et al. Decreased serum phosphate levels are a useful biomarker to predict occurrence and severity of cytokine release syndrome in chimeric antigen receptor T-cell therapy. *Br J Haematol.* 2022 Oct 11. In Press.