

Cytotherapy Corner

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I would like to send my best wishes to all members of the ISCT community and all health professionals worldwide who are working to battle the COVID-19 pandemic. The Editors and support staff at *Cytotherapy* continue to operate at full capacity and we look forward to publishing highly relevant basic and clinical studies on COVID-19 from the ISCT membership over the coming months. I am also making a concerted effort to re-direct review assignments away from clinicians and clinician scientists who have been negatively impacted by the pandemic so that they may focus on their clinical duties.

The March issue of *Cytotherapy* features a short communication that summarizes proceedings from the ISCT MSC Committee pre-conference workshop held at the Montreal annual meeting, which focused on improving assays to evaluate MSC potency. The issue also contains several basic research papers focused on the hematopoietic system. For example, a manuscript by Wang et al. demonstrates using a genetics-based approach that IL1 β -mediated inhibition of hematopoiesis is niche dependent, and that inhibition of IL1 β signaling in niche cells delayed AML progression in mice. Work by Jaime-Perez et al. evaluates the mobilization kinetics of CD34⁺ cells in multiple sclerosis patients administered G-CSF, which was revealed to be higher than expected, and an article by Frank et al. describe a method to affix monoclonal antibodies directly to cytokine induced killer (CIK) cells, and show that CIKs armed with rituximab and daratumumab exhibit enhanced cytotoxicity in vitro against multiple lymphoma targets compared to conventional CIK cells. The issue also reports on three separate clinical studies evaluating 1) effects of viremia and GvHD on Treg reconstitution in children transplanted with cord blood for non-malignant disease, 2) the impact of graft composition on immune reconstitution, survival, and GvHD incidence in patients receiving haplo-identical transplants, and 3) the safety and efficacy of CAR-T for B cell lymphoma involving the GI tract.

The April issue features the "Talking with Giants Trilogy" that includes interviews with Drs. Carl June and Bruce Levine, who pioneered the development of CAR-T immunotherapies, and the Whitehead family whose daughter was one of the first patients treated with this novel therapy. This represents an exciting follow up to the "Talking with Giants" series featured in 2019. The April issue also includes basic scientific studies evaluating the potency of MSCs engineered with a peptide antagonist of CCL2/CCR2 in a rat model of perinatal bronchopulmonary dysplasia (Suzuki et al.), and that of a novel glycoprotein (MFG-E8) loaded copolymer for the treatment of spinal cord injury in rats (Gong et al.). It also contains an innovative paper by Picken et al. that employed a Monte-Carlo simulation to assess the impact of inter-donor biological variability in BM-MSC yield on manufacturing output, which provides a useful model to identify donor populations amenable to large-scale processing thereby minimizing wasteful manufacturing. Therefore, the work is likely to be of keen interest to those employed in manufacture of clinical grade MSCs. The April issue also contains a clinical study by Barbosa

de Lima et al. that evaluates the functional status of tumor infiltrating lymphocytes from patients with metastatic solid tumors who were treated with checkpoint inhibitors targeting the PD-1/PD-L1 axis. The study identified a link between patients that benefited from the therapy with the accumulation of CD8 effector T cells in tumors. A second study by Cao et al. performs a meta-analysis of clinical data to assess adverse side effects associated with CAR-T therapy in ALL and lymphoma patients. The study finds that cytokine release syndrome and neurotoxicity are the most common adverse side effects associated with CAR-T

Happy reading and wishing everyone good health.