Paving the Way for Cellular Immunotherapies

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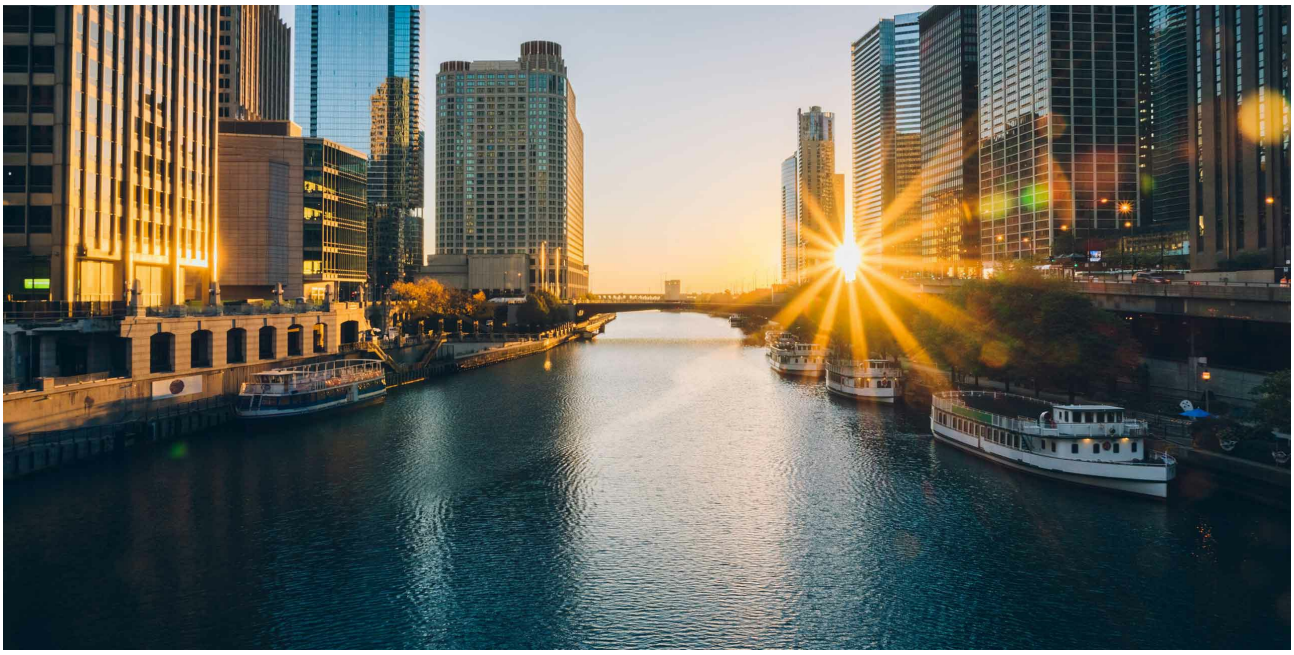
Cancer centers are quickly getting up to speed on this new treatment approach.



Last week, scientists, physicians and patient advocates gathered in Chicago for the 2018 American Society of Gene & Cell Therapy (ASGCT) annual meeting to discuss results of recent trials for cellular immunotherapies, including chimeric antigen receptor (CAR) T cell therapies. These treatments have the potential to change the treatment paradigm in oncology, but obstacles remain for cancer centers seeking to take advantage of this new approach.

In this Q&A, Dr. Helen Heslop, director of the Center for Cell and Gene Therapy at Baylor College of Medicine, Houston Methodist Hospital and Texas Children's Hospital, explains what was discussed at the meeting regarding the practical challenges cancer centers are facing when offering CAR T cell therapies to patients.

DR. HELEN HESLOP FROM BAYLOR COLLEGE OF MEDICINE EXPLAINS SOME OF THE CHALLENGES OF IMPLEMENTING CHIMERIC ANTIGEN RECEPTOR T CELL THERAPIES.

What types of centers are offering CAR T cell therapy?

“A variety of centers are setting up CAR T cell programs, including public and private, large and small, pediatric and adult cancer centers.

“Everyone is doing it slightly differently, so we need to share best practices regarding the practical nuts and bolts of implementation in three broad areas: setting up a program to offer CAR T cell therapies, what it takes to get accredited and issues with access and reimbursement.”

How is the administration of cellular immunotherapies different from traditional treatments?

“Giving a patient cell therapy is different than typical small molecules or biologics. The patient’s lymphocytes are separated from the rest of the patient’s blood cells and plasma in a process called apheresis. The lymphocytes are then sent to a central manufacturing to be genetically reengineered. The modified cells are then sent to the treating center as a frozen CAR T cell product. The product is then thawed and infused back into the patient.

“The cell collection process is more akin to a stem cell transplant, so centers that are currently performing stem cell transplants have most of the processes in place to offer CAR T cell therapies.”

And those processes would include?

“With cellular therapies, there is the risk of developing complications that require specialized management, such as cytokine release syndrome and neurotoxicity.”

> About 40 centers in the United States are offering cellular immunotherapies. But that number could rise quickly.

How many centers are currently offering CAR T cell therapy?

“Right now, about 40 centers in the United States are offering cellular immunotherapies approved by the U.S. Food and Drug Administration to patients. But there are close to 200 transplant programs across the country, so that number could rise quickly if more centers attain Risk Evaluation and Mitigation Strategy certification per the individual product labels.”

What is the most significant challenge for centers in implementing these therapies?

“Aside from the clinical issues, the financial and administrative aspects and access to these new therapies for patients are also significant challenges. Hospitals have to create new processes for this new treatment paradigm and codes for the procedures involved with CAR T cell therapy administration are not yet available.”

What’s next for cellular immunotherapies?

“So far, CAR T cells have only been approved for specific relapsed or refractory diseases. One obvious question requiring careful investigation of risks and benefits is whether you can give CAR T cell therapy earlier in the course of therapy.”

To learn more about how CAR T cells may help immune cells identify cancer cells, read “Revealing Cancer Cells to the Immune System.”