Panel OKs CAR T Therapy for Leukemia

An expert panel recommended approval of Novartis’s experimental chimeric antigen receptor (CAR) T-cell therapy, tisagenleculis (CTL019), potentially ushering in a new standard of care for patients with advanced blood cancers. At a meeting on July 12, the FDA’s 10-member Oncologic Drugs Advisory Committee voted unanimously in favor of approving the therapy to treat children and young adults with relapsed or refractory B-cell acute lymphoblastic leukemia (ALL).

In making the recommendation, experts relied primarily on data from a single-arm phase II study in which 63 pediatric and young adult patients received tisagenleculis. After 3 months, 83% went into remission, and 75% remained disease-free after 6 months.

Although the FDA is not required to heed the panel’s recommendation, it usually does so. A final decision on approval is expected by early October. “Tisagenleculis is poised to become the first genetically modified T-cell therapy approved for cancer treatment,” says Malcolm Smith, MD, PhD, associate branch chief for pediatric oncology at the NCI. “It provides another chance for children with relapsed/refractory ALL who previously had little or no chance for prolonged remissions.”

The therapy involves harvesting patients’ white blood cells and then shipping them to a manufacturing facility where T cells are isolated and genetically modified to express CARs that target CD19. Patients are then infused with their modified T cells, which grow and expand to potentially eradicate their cancer over 2 to 3 weeks. “This treatment was remarkably effective in patients who had exhausted all other treatment options, including bone marrow transplants,” says David Maloney, MD, PhD, of Fred Hutchinson Cancer Research Center in Seattle, WA. “It marks a whole new era for cancer therapy.”

Despite the excitement surrounding CAR T-cell therapy, the field is still in its early stages, notes Smith. More clinical trials, as well as real-world data, are needed to better understand the short- and long-term risks and potential benefits of treatment.

“Tisagenleculis has a clear positive treatment effect in a substantial number of children with relapsed/refractory ALL, but more experience is needed to define the percentage of patients who attain complete, durable remissions,” he says. “Researchers need to better understand the rates and severity of adverse events such as neurotoxicity, and whether there are long-term detrimental effects in some patients.”

CAR T therapy can have severe or even fatal complications, such as an inflammatory response called cytokine release syndrome, notes Maloney. Thus, T-cell infusions should take place in high-volume centers where experienced providers can handle any complications. Although challenges remain, the expected approval of tisagenleculis represents a complete shift in oncologists’ ability to treat advanced leukemia and is likely to be used broadly in patients with advanced disease, Maloney says.

“The hope is that this will be a one-time curative therapy for many patients,” he says. “While we still need to understand why some patients relapse, this is a treatment that’s proven to be effective in patients when nothing else has worked.” — Janet Colwell

Spreading Colon Cancer Can Bypass Lymph Nodes

When colon cancer spreads, malignant cells often travel directly to the organs, skipping the lymph nodes, a new evolutionary analysis suggests (Science 2017;357:5560). More than 150 years ago, scientists noticed that metastases often appeared in the lymph nodes before they did in distant organs. That observation suggested that metastatic cells colonized the lymph nodes first. Node removal has long been a standard surgical procedure to prevent metastasis and to stage cancers, but some studies have questioned whether the practice improves survival, and the issue remains contentious.
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