Gene therapy successful in treating leukemia. Can it be used to fight other cancers as well?

A new cancer treatment pioneered at the University of Pennsylvania has generated excitement in the field in addition to a handful of breathless media reports. Called targeted cellular therapy, the approach has given several dozen patients what Laurence Cooper of the MD Anderson Cancer Center called “a Lazarus moment.”

The patients all suffered from lymphocytic leukemia and had exhausted other treatment options. The researchers, Carl June and David Porter, announced the results recently at the American Society of Hematology Annual Meeting and Exposition in New Orleans.

“Those patients were facing certain death,” said Cooper, who wasn’t involved in the Penn study but is researching a similar treatment at MD Anderson.

After receiving targeted cellular therapy, 26 of 59 patients, including 19 children, are now cancer-free. Patients with the acute form of the cancer, which affects both children and adults, were especially likely to respond positively to treatment.

Targeted cellular therapy is an extension of long-standing efforts to ramp up the patient’s own immune system to destroy cancer cells. With advances in genetics, doctors can now reconfigure patients’ T cells to target a particular type of cancer cell.

The treatment isn’t without risk, though. Although none have died from the treatment, patients suffer severe flu-like symptoms while the revved-up immune cells do their work. They require round-the-clock medical care, sometimes including the immunosuppressant drug tocilizumab.

Given the promising results for leukemia patients, researchers are already pursuing similar approaches for pancreatic and breast cancers as well as glioma, the type of brain cancer that killed Ted Kennedy.

Read the full, original article: Gene Therapy Turns Several Leukemia Patients Cancer Free. Will it Work For Other Cancers, Too?

Additional Resources:

- Gene therapy scores big wins against blood cancers, Associated Press
- The fall and rise of gene therapy, Wired
- The science and troubling ethics of gene therapy, Popular Science