Research Holds the Key to New Cures

One mom's mission to advance leukemia breakthroughs in honor of her son

Fourteen-year-old Will Maniatis hadn't felt "right" for several weeks before he and his family received the devastating news that he had Acute Myeloid Leukemia (AML). Despite two aggressive rounds of chemotherapy, participation in a clinical trial for an alternate therapy and a bone marrow transplant, Will died in February of 2020.

Will Maniatis, center, with older brothers Stathi and Jack, two months before he died.

"They threw everything at him that they knew of," says Will's mom, Claudia Maniatis, of his caregivers at Children's Hospital Colorado. "They consulted with the top AML doctors across the country but there were no other options. He was a healthy kid, but Will died 14 months after he was diagnosed because of a lack of research."

Although many advances have been made in the treatment of Acute Lymphocytic Leukemia (ALL), the most common form of childhood cancer, therapies for pediatric AML have not changed much since the 1990s. Chemotherapy for AML is intense, often causing serious infections or even heart failure, and the treatment is not sufficiently effective. For every 10 children diagnosed with AML, only about six are cured long-term. The rest will have disease that persists despite therapy or will suffer relapse after initially responding to therapy.

Maniatis describes Will as very "hands on" and involved with his treatment.

"When he learned that his cancer was terminal, the first thing he said was, 'Kids like me deserve more attention and better treatment options.' It was Will's wish that inspired me to launch the WillStrong Cancer Foundation to support researchers who are working on advancements in the lab right now," says Maniatis.

The foundation made its first gift in 2020 to support the work of Amanda Winters, MD/PhD, who specializes in treating leukemias, lymphomas and pre-cancerous bone marrow diseases at the Children's Colorado Center for Cancer and Blood Disorders. Through her research, Dr. Winters is trying to develop better methods for detecting low-level AML disease to pre-emptively treat patients at high risk of relapsing. She is also pursuing more targeted pediatric AML therapies that, unlike chemo, will eradicate the leukemia cells while sparing healthy organs and tissues.

With support from WillStrong, Children's Colorado was able to purchase a digital polymerase chain reaction (PCR) machine for Dr. Winters' research. A PCR machine can rapidly make millions of copies of a single DNA sample, so that researchers can study cells more closely and monitor disease more effectively. With this new instrument, Dr. Winters and her colleagues can more quickly perform new tests to differentiate leukemia cells from normal cells.