New therapy enlists immune system to boost cure rate in a childhood cancer

May 27 2009

A multicenter research team has announced encouraging results for an experimental therapy using elements of the body's immune system to improve cure rates for children with neuroblastoma, a challenging cancer of the nervous system.

John M. Maris, M.D., chief of Oncology at The Children's Hospital of Philadelphia, co-authored the phase 3 clinical trial, which was led by Alice Yu, M.D., Ph.D., of the University of California, San Diego. Maris chairs the committee supervising the trial for the Children's Oncology Group, a cooperative organization that pools resources from leading medical centers to study and devise new treatments for pediatric cancers.

Neuroblastoma, a cancer of the peripheral nervous system, usually appears as a solid tumor in the chest or abdomen. Neuroblastoma accounts for 7 percent of all childhood cancers, but due to its often aggressive nature, causes 15 percent of all childhood cancer deaths.

Yu will present the neuroblastoma study results on June 2 at the annual meeting of the American Society of Clinical Oncology (ASCO) in Orlando, Fla. In advance of the meeting, ASCO published the findings online on May 14.

Maris explained that immunotherapy for cancer involves triggering the body's immune system to attack cancer cells. Monoclonal antibodies are molecules customized to target particular cancers, while cytokines are naturally occurring signaling proteins that regulate the body's immune

responses.

In the current study, Children's Oncology Group researchers studied 226 children with high-risk neuroblastoma. Half received the immunotherapy, while half received standard therapy (chemotherapy and stem cell transplantation). The patients who received the immunotherapy were 20 percent more likely than those in the standard therapy group to live disease-free two years after treatment. "This 20 percent improvement in preventing relapse led to a greater cure rate—the first substantial increase in cure rate for neuroblastoma for more than a decade," said Maris.

The researchers halted the trial earlier than expected after early results showed the benefits of immunotherapy. "This experimental immunotherapy is poised to become part of the new standard of care for children with the aggressive form of neuroblastoma," said Maris.

Maris added that the supply of the antibodies and cytokines used in the trial was limited, and that pediatric oncologists were seeking biotechnology companies to move the biological agents into commercial production to make the treatment readily available to children with neuroblastoma.

Source: Children's Hospital of Philadelphia (news : web)