An experimental drug for Hodgkin's lymphoma, studied at the UAB Comprehensive Cancer Center, showed beneficial effects in stopping tumor growth with moderate side-effects, according to findings published Thursday in the New England Journal of Medicine.

The Phase 1 trial was designed to establish a maximum tolerated dose of brentuximab vedotin (SGN-35), a combination of the monoclonal antibody cAC10 and an antitubulin agent, monomethyl auristatin E (MMAE), developed by Seattle Genetics . Using a dose-escalating protocol, the researchers administered a dose of 0.1 to 3.6 mg per kilogram of body weight.

"Our primary goal was to establish the maximum tolerated dose, one that would not cause adverse side effects of SGN-35," said Andres Forero-Torres, M.D., a senior scientist in the UAB Comprehensive Cancer Center and a senior author of the study. "In the process, we were pleased to discover that positive responses were observed in 17 of the 45 patients involved in the study, including 11 complete remissions."

As many as 30 percent of Hodgkin's disease patients don't respond to conventional therapy, and the disease kills an estimated 1,300 people annually in the United States alone. Because Hodgkin's disease frequently strikes young adults, there is a significant social impact from these premature deaths.

Forero-Torres says tumor regression was noted in 36 of the 42 patients who could be evaluated and the duration of response to the drug lasted more than 9 months.

“There is a large percentage of patients with Hodgkin’s lymphoma or anaplastic large-cell lymphoma who do not respond well to traditional therapies such as chemotherapy or autologous stem-cell transplantation,” said Forero-Torres. “SNG-35 appears to be satisfactorily tolerated at 1.8 mg and may offer promise to those patients for whom other therapies have proven to be unsuccessful.”

The authors report that the most commonly observed adverse affects were fatigue, fever, diarrhea, nausea, neutropenia (low white blood-cell count) and peripheral neuropathy (tingling, numbness or pain in the hands and feet). Most adverse effects were classified as grade 1 or 2 (out of 4), which is considered mild to moderate.

Both Hodgkin’s lymphoma and anaplastic large-cell lymphoma express a tumor marker protein known as CD30. SNG-35 consists of the anti-tumor drug MMAE attached to cAC10, which is a CD30-specific monoclonal antibody. The antibody-drug combination binds to CD30, allowing MMAE to be drawn into tumor cells where it interferes with the cell’s ability to divide.

The research was funded by Seattle Genetics. Collaborators are the University of Texas M.D. Anderson Cancer Center, Washington University, St. Louis and Weill Medical College of Cornell University.

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