# Research identifies successful new treatment for Hodgkin's lymphoma, reduces long-term risks

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New research led by Cindy Schwartz, MD, of Hasbro Children's Hospital has identified a new chemotherapy regimen for pediatric Hodgkin lymphoma (HL) patients. The new treatment enhances efficacy through dose-dense drug delivery while simultaneously reducing the long-term risks presented by high cumulative dose chemotherapy. Schwartz and the researchers of the Children's Oncology Group have published their findings in the journal *Blood* (posted in an online first edition).

The Children's Oncology Group's Hodgkin Lymphoma Committee, led by Schwartz, director of pediatric hematology/oncology at Hasbro Children's Hospital, recognized that treatment for HL in the United States was not being treated with the most modern treatment models, in large part because it was one of the first malignancies for which a curative chemotherapy regimen was developed.

Schwartz says, "For decades, the chemotherapy regimens known as MOPP and ABVD had been the standard treatment options for these patients. However, while they yielded excellent survival rates, they often resulted in long-term effects from toxicity, including infertility, second malignancy and cardiopulmonary toxicity. With the new treatment paradigm we've developed, in essence, we've been able to cure the cancer while reducing the risk of long-term effects on our patients."

The group designed a new chemotherapy treatment known as ABVE-PC,

combining six different drugs into one "dose-dense" regimen that could limit the cumulative doses of each drug below the recognized thresholds known for resulting in long-term toxicity. Their goal was to reach a rapid early response (RER) in order to further reduce cumulative therapy and to thereby increase event-free survival (EFS). They also combined the chemotherapy treatment with low dose radiation following the completion of the ABVE-PC cycles.

The treatment developed by the researchers was unique given that its focus was on early response after nine weeks, measuring to detect primary chemosensitivity - a favorable response to chemotherapy, indicating that the therapy is working. This approach differs from the traditional evaluation of the response at the end of chemotherapy. Schwartz notes that this is important, because, "This early detection allows for a reduction in therapy for those who respond well to the dose-dense treatment, and therefore, individual response can be tailored for maximum efficacy."

Schwartz, who is also a professor of pediatrics at The Warren Alpert Medical School of Brown University, believes that the study represents a new treatment model for patients with HL. She states, "Our treatment paradigm for advanced HL relied on two treatment principles: dose density enhances therapeutic efficacy and rapid early response is evidence of chemosensitivity and can serve as a basis for reduction of therapy."

The researchers conducted a trial of 216 eligible patients under 22 years of age, with intermediate or high risk HL; there were 76 females and 140 males. The median time from initial treatment to completion of the third cycle was approximately 8.7 weeks, and completion of the fifth cycle was approximately 16 weeks. While the dose densities of the chemotherapy agents exceeded those of the most commonly used regimens, cumulative doses of the chemotherapy were significantly

lower, particularly in those with RER. The study was conducted at Children's Oncology Group sites between 1997 and 2001.

Schwartz says, "The results of the study indicate that through this new chemotherapy treatment we have been able to effectively deliver dose-dense chemotherapy while reducing the cumulative exposure to our patients." There are other, more immediate outcomes of the new treatment paradigm that are also of note. Schwartz also adds, "Our patients truly appreciate the rapidity of treatment. Regimens traditionally used for intermediate and advanced disease require six to eight months of chemotherapy, instead of two to three and a half months. A major benefit of this new approach is that children and young adults are able to more quickly return to school and work."

Of the 216 eligible patients, 209 were able to be evaluated for response. Of those patients, 63 percent (132 patients) showed RER, and only two of the patients showed evidence of progressive disease. RER was achieved in 67 percent of intermediate HL patients and 61 percent of high risk HL patients. The five-year event-free survival for intermediate risk HL patients was 84 percent and 85 percent for high risk HL patients. Few relapses occurred beyond three years after enrollment.

Schwartz concludes, "We have successfully achieved five-year event free survival in 84 percent of the patients and overall survival in 95 percent of our patients with this dose-dense, early-response based treatment algorithm. Only nine weeks of chemotherapy were required in 63 percent of our patients. This study has shown conclusively that the new chemotherapeutic treatment of ABVE-PC simultaneously provides high efficacy and reduces the cumulative doses of chemotherapy and radiation. We believe this represents a significant advance in the treatment of HL."

Source: Lifespan (news : web)