

Drug might protect hearts of childhood leukemia survivors

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About 75 percent of children with leukemia who take chemotherapy face life-threatening heart problems as they age, but an international study led by a University of Rochester Medical Center investigator shows that giving a cardio-protective drug during cancer treatment may prevent the damage.

Researchers and physicians will debate how to make young [cancer patients](#) and their families aware of the risks of heart damage, and the best ways to manage the risks, in a special session today at the American Society of Clinical Oncology (ASCO) meeting in Chicago.

Led by Barbara L. Asselin, M.D., professor of Pediatrics and Oncology at URMC, the study was sponsored by the Children's [Oncology Group](#) and the [National Cancer Institute](#). It is believed to be one of the largest trials to evaluate the effectiveness of the drug Zinecard (dexrazoxane), at protecting the heart during treatment of [acute lymphoblastic leukemia](#). Asselin presented data and will also take part in a larger ASCO forum, during which hundreds of [pediatric cancer](#) experts will discuss [heart disease](#) and second malignancies – the unfortunate, severe risks associated with aggressive treatment of children.

"Today the majority of children with leukemia will be cured," Asselin said. "As our young people survive, though, we believe we will see many more cardiac issues. It is a problem that must be fixed because it is the leading cause of death later in life among these patients."

One part of the equation involves getting teenagers and young adult cancer survivors, who tend to engage in riskier behaviors, to be aware of potential problems and make healthy lifestyle choices (no smoking; exercise; careful follow-up appointments with a physician), Asselin said.

Drugs such as Zinecard are also important, although the data so far has been inconsistent. The URMC study evaluated 537 patients for more than 10 years after they were treated for leukemia between 1996 and 2001. All received multi-agent chemotherapy that included doxorubicin, known to be toxic to the heart.

Patients were randomized to two groups, with or without a dose of intravenous Zinecard immediately prior to receiving the chemotherapy. Later, researchers assessed each patient for [heart damage](#) at three different points after chemotherapy. Using standard measures, they looked at heart muscle function and structure. (A common problem following doxorubicin therapy is heart enlargement and thinning of the ventricular walls.)

For both groups of patients, the five-year survival with no evidence of leukemia was the same. That data was encouraging and very important, Asselin said, because of concern in the pediatric community that adding Zinecard to the treatment regimen might interfere with the chemotherapy's ability to attack the [leukemia](#).

In addition, the group that did not receive Zinecard had more episodes of acute [heart problems](#), and researchers saw more damage over time to the heart structure and function, as compared to the group that did receive the cardio protective drug.

Earlier clinical trials of Zinecard in women with breast cancer, who had already received high doses of doxorubicin and needed more chemotherapy, showed that the drug could protect the heart during

retreatment, Asselin said.

A problem with Zinecard, however, is that the URMC study also showed an increased rate of second malignancies in the children who received the heart drug. Although the higher rate did not reach conventional levels of statistical significance by research standards, it is worth noting and studying further, Asselin said.

One of the goals of the ASCO forum, in fact, will be to review all data on the use of the Zinecard and to debate the risks and benefits.

"We now have some very effective cancer treatments at our disposal," Asselin said. "But we really need to focus on promoting the good health of our survivors. Our care does not end with chemotherapy. Being there for many years into the future, and to help childhood survivors understand their risks, is so important."

Provided by University of Rochester Medical Center

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