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Large Study Shows Progressive Increases in Long-Term Survival for Children With Leukemia [1]

JCO Research Round Up
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A new, long-term study shows that survival rates for children and adolescents with acute lymphoblastic leukemia (ALL), the most common type of pediatric cancer, climbed steadily between 1990 and 2005. This analysis is the largest study to date of ALL survival, exploring important survival gains based on patient age, race, ethnicity, and subtype of ALL. The findings were published March 12 in the *Journal of Clinical Oncology*.

Researchers found that five-year survival rose from 83.7 percent in the period 1990-1994 to 90.4 percent in 2000-2005. These survival gains were observed among all children over age 1, regardless of age, sex, ethnicity, or subtype of ALL. Similar improvements were also found in 10-year survival (from 80.1 percent to 83.9 percent).

The findings reflect decades of steady progress against ALL. Until the 1960s, childhood leukemia was virtually incurable. Since then, clinical trials have identified new, effective cancer drugs and drug combinations for ALL. Additionally, advances in supportive care have played a vital role in enabling patients to complete all their treatments in the optimal time period. Supportive care includes treatment for the symptoms and side effects of cancer and its therapy, such as low blood cell counts, infections, pain, and nausea.

This study was conducted using data from the Children's Oncology Group (COG), a part of the National Cancer Institute's Clinical Trials Cooperative Group Program. Stephen Hunger, MD, Professor of Pediatrics at the University of Colorado School of Medicine and Director of the Center for Cancer and Blood Disorders at Children's Hospital Colorado, and his colleagues analyzed long-term survival among 21,626 individuals who were treated for ALL as children or adolescents (birth to age 22) in COG clinical trials between 1990 and 2005. The study population represents nearly 56 percent of ALL cases estimated to have occurred among individuals in the United States younger than age 20 in that time period.

In addition to the overall gains in survival, Dr. Hunger and his colleagues found that survival improved significantly in all of the following subgroups of patients: children ages 1-9 years; 10

years and older; 15 years and older; males and females; whites, blacks, and other races; Hispanics, non-Hispanics, and persons of unknown ethnicity; those with B-precursor ALL and T-cell ALL (leukemia that forms from the B or T cells); and those with standard-risk or high-risk disease.

Among infants (age 1 and younger), however, five-year survival has changed little between 1990-1994 (52.1 percent) and 2000-2005 (50.3 percent), though the causes of death have changed considerably. The incidence of treatment-related deaths increased from 3.9 percent in 1990-1994 to 13.9 percent in 2000-2005, while death rates from ALL relapse or progression decreased from 43 percent to 27.2 percent during this period.

A primary challenge with ALL therapy for infants is that their immune systems are not fully developed, making them more prone than older children to infections during cancer treatment. Cancer researchers remain hopeful, however, that clinical trials exploring new combinations of targeted drugs and conventional chemotherapy can improve outcomes for infants.

What This Means for Patients

These data confirm decades of progressive success in treating children with acute lymphoblastic leukemia. Thanks to the research conducted through clinical trials, especially those of the Children's Oncology Group, a child diagnosed with ALL today has more than a 90 percent chance of surviving and growing up to become a healthy, productive adult.

It's important that parents of children with leukemia talk with their doctors about participating in clinical trials. These studies evaluate new treatments to find out whether they are safe, effective, and possibly better than the current (standard) treatment. These trials continue to serve as the vital pathway to new therapies that extend and improve patients' lives today and in the future.

Helpful Links:

Guide to Childhood ALL [2]

Childhood Cancer Survivorship [3]

Late Effects of Childhood Cancer [4]

Clinical Trials [5]

Explore progress in pediatric cancer on CancerProgress.Net [6]

Links:

[1] http://www.cancer.net/research-and-advocacy/research-summaries/large-study-shows-progressive-increases-long-term-survival-children-leukemia

[2] http://www.cancer.net/patient/Cancer+Types/Leukemia+-+Acute+Lymphoblastic+-+ALL+-+Childhood

[3] http://www.cancer.net/patient/Survivorship/Childhood+Cancer+Survivorship

[4] http://www.cancer.net/patient/All+About+Cancer/Cancer.Net+Feature+Articles/After+Treatment+and+Survivorship/Late+Effects+

[5] http://www.cancer.net/patient/All+About+Cancer/Clinical+Trials

[6] http://www.cancerprogress.net/timeline.html?secparam=pediatric