PROJECT INFORMATION

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Comparing Chemotherapy Recovery at Home versus in the Hospital for Children with Acute Myeloid Leukemia

Principal investigator

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Organization

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What was the research about?

Acute myeloid leukemia, or AML, is a type of blood cancer. Although 20 percent of children with leukemia have AML, AML causes more than half of all deaths from leukemia in children.

Doctors use multiple courses of chemotherapy to treat AML. After each course, children with AML are at high risk for life-threatening infections. These infections can also delay the next course of chemotherapy.

After chemotherapy, some children with AML recover at the hospital and others recover at home, depending on the hospital. No one knows how recovery in the hospital or at home affects the risk of infections. Some children and their parents may prefer recovery at home if it is safe.

In this study, the research team compared health records of children with AML who went home with those who stayed in the hospital to recover from chemotherapy. The team wanted to learn whether recovery at home could be a suitable option.

What were the results?

Recovering at home didn't negatively affect children with AML. Children who went home to recover from chemotherapy didn't have more bloodstream infections, delays in starting their next course of chemotherapy, or worse quality of life than those who stayed in the hospital.

What did the research team do?

The research team looked at health records from 554 children with AML who were 19 years old and younger and who received chemotherapy at 1 of 17 health centers. The team classified children as recovering at home or at the hospital. Children discharged from the hospital within three days after ending a course of chemotherapy were recovering at home. Children who stayed for more than three days were recovering in the hospital.

To assess delays in treatment, the research team looked at health record data for up to 50 days after the start of each chemotherapy course. The team looked at the results of blood tests to identify the presence of infections.

A subset of 97 parents whose children were in the study completed surveys about their child's health-related quality of life. Parents took the surveys at the start of a chemotherapy course and again after their child recovered.

Patients and family members with experience with AML helped design the study and gave input during the study.

What were the limits of the study?

The research team didn't have data on how severe the children's bloodstream infections were, which is important to know when comparing recovery options.

Future research could continue to look at when recovery at home would be suitable. Also, studies could compare the severity of bloodstream infections among children with AML who recover in the hospital versus at home.

How can people use the results?

Parents of a child with AML and their doctors can use the results when considering recovery from chemotherapy at home or in the hospital.

To learn more about this project, visit www.pcori.org/Aplenc329.