JEFFREY PRIDE FOUNDATION

2022-2023 Grants to Children's Oncology Group Research

NEW PROJECTS IN 2023:

Project Title : AALL2131 – International Phase 3 Trial for patients with ALL harboring chromosome abnormality

Acute Lymphoblastic Leukemia (ALL) is the most common cancer of childhood. While many new therapies are causing cure rates to improve, there are still patients with higher relapse rates. The COG ALL committee has initiated a key partnership with collaborators in Europe on a trial to include specialized precision medicine for patients with specific high-risk genetic alterations. The Jeffrey Pride Foundation was the first philanthropic organization to contribute support for the trial, empowering COG to demonstrate the value of collaborative research and enabling COG to activate this trial this year.

Jeffrey Pride Foundation Integrated Correlative Biology Awards- for COG Reference Laboratories

COG Reference libraries are responsible for the processing, testing and banking of biospecimens for COG protocols and support all COG Disease committees. Decreases in funding from the National Cancer Institute has necessitated a need for philanthropic support and the Jeffrey Pride Foundation is honored to help with this funding.

The studies are still being developed for 2023, - - grants will be going out to 4 disease committees:

1-Acute Lymphoblastic Leukemia, - Mignon Loh, MD , Chair

Future studies include studies include new therapies balancing effectiveness and tolerable toxicity. Also, analysis of risk factors besides abnormalities in their cancer cells (i.e. family burdens, etc) that can be measured and intervened upon is to be pursued.

2-Acute Myloid Leukemia,- Todd Cooper, DO, Chair

Future studies include targeting and inhibiting certain genes that are present in patients with poor prognosis. Another area is to further the partnership with the Leukemia Lymphoma Society to collect and analyze date for children with relapsed leukemia.

3- Hodgkins Lymphoma, - Sharon Castellino, MD, MSc, Chair

Future studies include focusing on biomarkers that can be incorporated into clinical trials to personal therapy. Also, evaluation of multiple proteins within the tumor micro-environment and their interactions with tumor cells and connective tissue components.

4-Non-Hodgkins Lymphoma, - Carl Allen, MD, Phd, Chair

Research opportunities include, studies for novel therapies for Mature B Cell Lymphoma; Genetic and blood studies for Lymphoblastic Lymphoma; therapy evaluation of Anaplastic Large Cell Lymphoma; Evaluation of malignant cells and evaluation of immunotherapy of Primary Mediastinal B Cell Lymphoma; Association of MAPK inhibitor for Langerhans cell Histiocytosis; reviewing rare biological characteristics of rate NHL subtypes..

PROJECTS ONGOING IN 2023:

Project Title : Project Every Child

This group-wide COG initiative aims to capture the biology and outcome of every child diagnosed with cancer in the United States and COG's affiliated countries. Specimens were collected from patients in United States, Canada, Australia, New Zealand and Saudi Arabia. Scientists worldwide can access the *Project:EveryChild* biobank of more than 250,000 biospecimens collected from nearly 50,000,000 patients, along with volumes of related data related to the patients specific disease in a collaborative effort to find better, less toxic, and more patient-specific cures for children with cancer.

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Project Title: B-ALL MRD Testing at End of Consolidation for COG AALL1731

The COG Phase 3 protocol AALL1731 was activated in June 2019 with a goal of enrolling more than 6,400 leukemia patients, including those with Down syndrome, over a 5-year period in order to study the effectiveness of a drug called Blinatumomab in conjunction with chemotherapy. This protocol includes testing after consolidation (a period of intensified therapy following initial remission) to determine the presence of minimal residual disease, which is the term used to describe the small number of cancer cells remaining after treatment. COG has funding from the National Cancer Institute (NCI) to test for minimal residual disease at higher levels (>0.099%), however additional funding from The Jeffrey Pride Foundation has allowed us to also perform these tests on children that have even lower, more difficult to determine levels of residual cancer. As of June 30, 2023, enrollment is over 3,500.

Project Title: CD22 Expression in B-ALL for COG AALL1732

In the COG Phase 3 protocol AALL1732, COG institutions test high-risk leukemia patients for a specific biomarker called *CD22* before children can be eligible for a later stage component of the protocol. CD22 is a difficult biomarker to test for, and in some cases smaller institutions may not be equipped for this testing at all. COG has designed the protocol in such a way that participating institutions can submit a frozen blood sample to a specialized laboratory that can perform centralized testing to confirm the presence of CD22, even in patients who may have previously tested negative for the biomarker at their home institution. The Jeffrey Pride Foundation has provided funding for this testing since the onset of the protocol in 2019, and as of July 2022 nearly 2,500 patients have enrolled.

Project Title : Molecular Detection of Residual Disease in Newly Diagnosed Acute Myeloid Leukemia (AML)

Laboratory tests are designed to aid physicians in making the most appropriate treatment decisions for the patients. After the initial diagnosis, a patient is allocated to the proper therapy and clinical trial. Monitoring the patient's response to therapy will continue to offer means to save patients' lives by detecting those who require augmented therapy for refractory or relapsed disease. The continued improvement and development of laboratory assays using different technologies that are complementary and can be integrated with the highest level of specificity and deepest sensitivity possible are required to improve cure rates in childhood acute myeloid leukemia.

Real time quantitative PCR (RQ-PCR) is one of the most sensitive genetic tests that is clinically validated; while used routinely in other leukemias it is not broadly used for childhood AML patients, in part due to lack of published data showing its potential. The goal of this proposal is to demonstrate in a large phase 3 clinical trial the utility in integrating RQPCR with other laboratory assays. Ultimately, we will use the results to prospectively validate the highest level of specificity and deepest sensitivity possible to improve cure rates in childhood acute myeloid leukemia.

PRIOR YEAR STUDY COMPLETED:

Project Title: IKZF1 alterations in children with Philadelphia chromosome-positive acute lymphoblastic leukemia

Philadelphia chromosome-positive acute lymphoblastic leukemia (Ph+ ALL) is a rare pediatric ALL subtype that was historically associated with a very poor outcome. Ph+ ALL is characterized by a gene fusion called BCR-ABL1 that can be effectively targeted by a type of drug called tyrosine kinase inhibitors (TKI). The advent of TKI in combination with intensive conventional chemotherapy has significantly improved the outcomes of pediatric Ph+ ALL with long-term survival now reaching 70-75% compared to 30% in the pre-TKI era. Nevertheless, the outcomes of children with Ph+ ALL remain inferior compared to those of their non-Ph+ ALL counterparts, due to higher rates of relapse and treatment-related mortality. Ongoing efforts are underway to identify new biomarkers that can accurately predict the risk of relapse for children with Ph+ ALL.