Solving Kids' Cancer

Annual Summary Report 2016

Solving Kids' Cancer

every kid deserves to grow up

Solving Kids' Cancer

Contents

Solving Kids' Cancer is committed to significantly improving survivorship of the deadliest childhood cancers. 100% of all public donations are used to find, fund, and manage clinical trials and scientific programs to rapidly develop more effective and less toxic treatment options. Solving Kids' Cancer is a 501(c)(3) public charity. www.SolvingKidsCancer.org.

Solving Kids' Cancer

Solving Kids' Cancer (SKC) is not just our name, it's our mission. We focus on aggressive childhood cancers with low survival rates—because Every Kid Deserves to Grow Up. SKC helps accelerate innovative, next-generation treatments including immunotherapy, cancer vaccines and new delivery mechanisms, by applying an understanding of the entire childhood cancer research landscape to wisely invest in the most promising projects. We extend our reach globally in order to carry out our mission to understand the research landscape, strengthen the science and cure more children.

SKC was founded in 2007 by two fathers who lost children to pediatric cancer. Their experiences led them to establish an organization to fill the void they had identified: there was no single group, institution or research entity exclusively and effectively devoted to solving the deadliest forms of pediatric cancer.

SKC was created, not as a conventional charity, but as a nonprofit enterprise dedicated to fostering a new collaborative approach to pediatric cancer research that makes therapeutic benefit and increased survivorship the primary funding criteria. SKC believes a strong foundation of basic cancer research already exists. What is needed is a coherent, methodical process to identify and prioritize existing data and to move the most promising projects toward viable therapeutic options. SKC serves as a bridge between the key stakeholders including scientists, translational researchers, clinicians and the life sciences industry.

Solving Kids' Cancer is independent of any single researcher, institution or consortium, allowing us to objectively support the most promising research projects. SKC collaborates with like-minded charities creating the ideal environment for effective, high-impact, charitable investment towards improving survival. Our partner organizations choose from a list of near-term projects, which have been carefully reviewed and approved by our Scientific Advisory Board. By joining together to amplify our impact on the research landscape, we are ensuring cures will be found sooner for children with the deadliest cancers.

SKC Presence in the Landscape

SKC participates in consortiums, coalitions and committees worldwide

FDA Patient Representative and FDA Oncologic Drugs Advisory Committee, 2010 - present
Member and Chair, New Approaches to Neuroblastoma Therapy Advisory Council, 2010 - present
Founding Member and Board Member, Coalition Against Childhood Cancer, 2012 - present
Member, Society for Immunotherapy of Cancer, 2013 - present
Pediatric Cancer Steering Committee, American Association for Cancer Research, 2015 - present
NCI Pediatric Review Board, 2015 - Present
Pediatric Central Revew Board Member, National Cancer Institute, 2015 - present

SKC has been invited to present at conferences and meetings around the world

Children's Oncology Group, Educational Presenter, 2010-2012
Children's Neuroblastoma Cancer Foundation, Presenter, 2010-2012
American Association for Hemotology/Oncology Nurses, Educational Presenter, 2011
Neuroblastoma Children's Cancer Alliance, Presenter, England, 2011-2015
The International Society for Pediatric Oncology, Presenter, 2011
Bristol Meyer Squibb Advocate Council Meeting, Presenter, 2015
National Cancer Institute Genomics Workshop, Advocate, Embryonal Tumor Panel Member 2015
Advances in Neuroblastoma Research Association, Presenter, Australia, 2016

NANT

COALITION AGAINST CHILDHOOD CANCER

AACR American Association for Cancer Research

CHILDREN'S ONCOLOGY GROUP

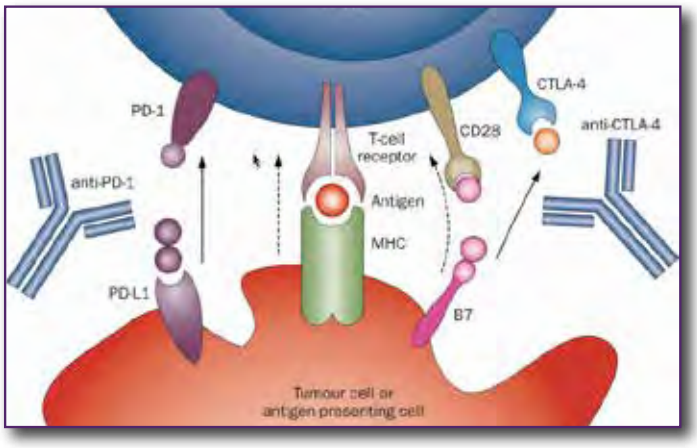
FDA

sitc Society for Immunotherapy of Cancer

NATIONAL CANCER INSTITUTE

Latest News:
Investing in Checkpoint Inhibitors

Solving Kids' Cancer (SKC) supports the development of innovative and promising new therapies for children who desperately need curative options when fighting recurrent or resistant disease. The field of immunotherapy is rapidly advancing and striking results have been seen in adult cancers in recent years. SKC works to bring these new approaches to children who have exhausted all options and need new therapies through the advancement of clinical trials.



In 2015, the SKC gala auction supported three such clinical trials. Each of these innovative trials involved the use of checkpoint inhibitors– humanized antibodies that take the "brakes" off immune cells to effectively and efficiently kill cancer cells. For example, the two anti-PD1 antibodies (pembrolizumab and nivolumab) have had significant impact on minimizing disease in adults with life threatening cancers.

The first trial involved amending an SKC clinical trial that was already underway at Texas Children's Hospital. SKC actively advocated and was able to adjust this trial to add the PD-1 antibody, pembrolizumab, to an engineered T-cell using a GD2 CAR (chimeric antigen receptor). This was the first time these therapies were combined in humans, and represents a huge step forward in the field of immunotherapy. The trial is now complete and providing necessary safety data while demonstrating promising immune responses to further develop additional combinations that are currently in the planning stages.

The second trial combines two checkpoint inhibitors, a PD1 (nivolumab) and targeting CTLA-4 (ipilimumab), in relapsed brain tumors at Memorial Sloan Kettering Cancer Center, Dana Farber Cancer Insitute and Johns Hopkins University Hospital. This trial is due to open in 2016, the first time this encouraging immunotherapy combination approach is being used in children with brain tumors. SKC expects this study may provide a completely new avenue for treating deadly brain tumors in children.

The third trial is an innovative combination therapy using highly targeted radiation while simultaneously stimulating the immune system with two different antibodies (ch14.18/CHO and PD1) – one targeting the GD2 antigen on neuroblastoma, and the other the checkpoint inhibitor nivolumab targeting PD1. International researchers and oncologists are collaborating to bring this trial to pediatric cancer centers in the US, England and Germany in 2016. This trial will allow children in the US and EU to access the study, providing them with a potent combination of immune-based therapies. This exciting new treatment option may prove to be much less toxic than chemotherapy or targeted drugs.

These three trials provide a glimpse into SKC's intentional focus to address unmet needs, push for innovation and prioritize children who are fighting deadly cancers.

Building a Community of Support

Runway Heroes

Children who are currently in treatment or who have previously battled cancer were invited to rock the runway in our second annual "Runway Heroes" event at Bloomingdales flagship store in NYC. Solving Kids' Cancer teamed up with our charity partners at the Ronan Thompson Foundation to recognize these brave and admirable kids of all ages, while giving them an opportunity to strut their stuff in high-fashion.

Tote for Hope

This year, Solving Kids' Cancer issued a limited edition canvas shopper adorned with our signature "Tote for Hope" logo. The proceeds from each purchase benefits innovative childhood cancer research. Children like Bella (our model pictured here who battled neuroblastoma) inspire all of us at Solving Kids' Cancer to continue working to improve long-term survival rates for children with cancer.

SKC's Young Professionals Network

The SKC Young Professionals Network, led by a robust Leadership Committee, is a talented group of dedicated professionals who generously donate their time, talent and expertise to help move our mission forward through strategic fundraising, networking, volunteerism and philanthropy. In their inaugural year, the team raised more than $25,000.

Ringing the NASDAQ Closing Bell

On September 11, 2015, Solving Kids' Cancer was invited to visit the Nasdaq MarketSite in Times Square to participate in the closing bell ceremony. To represent Solving Kids' Cancer, board member Mark N. Savoye did the honor of ringing the Closing Bell, which was simultaneously showcased on the Nasdaq Webcam, MarketSite Tower and participating television networks such as CNBC, Bloomberg TV and Fox Business News.

INBRACED

INBRACED (International Neuroblastoma Research and Collaboration for Effective Delivery) is a new collaboration led by Solving Kids' Cancer (US and Europe) between charities, researchers and clinicians with the shared priority to accelerate the development of new, more effective therapies for neuroblastoma. Central to the group's activities is the introduction of standardized international clinical trials.

The goal of INBRACED is to develop more effective treatments for neuroblastoma through international collaboration. Researchers will test potential treatments with the ultimate goal of developing effective new options for children with high-risk neuroblastoma globally. The first grant to be awarded under this program is for nearly $500,000, and annual calls for proposals will be issued to address the need for better salvage therapies and the development of treatments which promote lasting remission in neuroblastoma. INBRACED will fund and manage projects delivered in different centres worldwide. INBRACED partners actively reach out to experts and charities internationally, not only to assist with the sharing of information and cultivation of collaborations, but also to manage joint initiatives across borders.

The first INBRACED clinical trial is due to open this year. This grant was made for a new combination immunotherapy trial which will run simultaneously in the US and Europe led by world-renowned experts in immunotherapy and targeted radiotherapy. This represents the first time that neuroblastoma charities from different countries have successfully collaborated to fund an international clinical trial.

> "Solving Kids' Cancer is crossing borders and helping to fund some of the most important and innovative work in the world. They are results-oriented and motivated by all the right things."
>
> — Syd Birrell, The James Fund

In the medium to long term, INBRACED aims to explore how national networks can interact with international ones and what potential there is for major projects such as international molecularly-driven trials. INBRACED is building the connections and relationships required to deliver such projects, and is taking an active role in drug development.

Solving Kids' Cancer's Charity Partners

The Catherine Elizabeth Blair Memorial Foundation

MAKE SOME NOISE Pediatric Cancer Research Foundation

Children's Neuroblastoma Cancer Foundation

ANDREW McDONOUGH B+

Ronan Thompson FOUNDATION

A Kids' Brain Tumor Cure PLGA Foundation FUNDING RESEARCH ▸ FINDING CURES

Partnering for a Cure

One of Solving Kids' Cancer's (SKC) key philosophies is that the barrier to cures is not only caused by a lack of funding, but also by the use of the funding that exists. As part of the childhood cancer community, we feel that the return-on-investment from the funds that we have all invested is extremely poor. This has led us to consider how we can change this as a community, and accelerate overall progress.

We are part of great collaborations aiming to tackle this issue. Through our involvement we see that this wider move to join us all will take time to progress. In the interim, SKC has identified the gaps in the "marketplace" and positioned our organization to take a current activist role. We hope that by partnering with other like-minded organizations to deliver a portfolio of research projects that are part of a larger strategy, we will be able to impact the landscape more effectively than is being done now. By joining forces and adding our expertise of research advocacy, we believe that non-profit organizations can emerge as stewards of funding for cures.

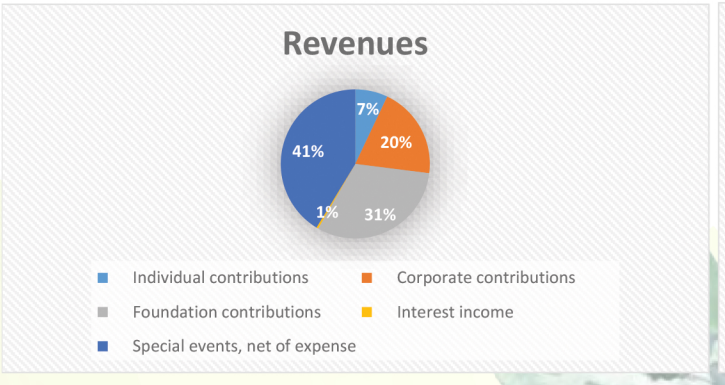
In 2015-16, SKC partnered with charities to fund the following clinical trials:

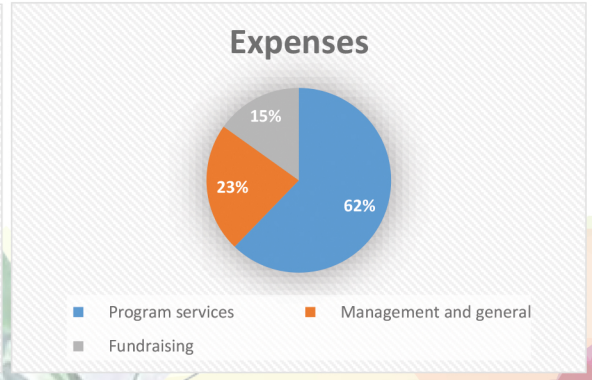
PROJECT TITLE	RESEARCHER	INSTITUTION
Phase I hu14.18-IL2 + KIR Ligand Mismatch Natural Killer Cells	Dr. Kenneth B. Desantes, MD	University of Wisconsin-Madison
Phase I Activated T Cells Transduced With a 3rd Generation GD2 CAR and iCaspase9 Suicide Safety Switch for Neuroblastoma	Dr. Andras Heczey, MD	Texas Children's Hospital/Baylor College of Medicine
NEPENTHE (MATCH NB) - Phase I Trial Matching Targeted Agents Based on Next-Generation Sequencing	Dr. Yael Mosse, MD and Dr John Maris, MD	Children's Hospital of Philadelphia
Pilot Study of High Intensity Focused Ultrasound (HIFU) for Unresectable Neuroblastoma	Dr. Ted Gerstle, MD	The Hospital for Sick Children, Toronto
Phase 1 Anti-PD1 Nivolumab in Children with Brain Tumors	Dr. Ira Dunkel, MD	Memorial Sloan-Kettering Cancer Center; Johns Hopkins University Hospital
Phase I Highly Active Cell Therapy for Neuroblastoma - RNA-transfected T Cell GD2 CAR	Dr. Stephan Grupp, MD	Children's Hospital of Philadelphia, University of Utah
Ph I Clinical Trial of Tumor Antigen-Specific Cytotoxic T-Lymphocytes (CTLs) for children with neruoblastoma and sarcomas	Dr. Ann Leen, MD	Texas Children's Hospital/Baylor College of Medicine
A Phase 1/2 study of PF-06463922, a next-generation ALK inhibitor, in children with relapsed / refractory ALK-driven neuroblastoma	Dr. Araz Marachelian, MD	Royal Marsden Hospital, UK; NANT Consortium
A phase I study of 131-1 MIBG, nivolumab and ch14.18/CHO in relapsed / refractory neuroblastoma	Dr. Juliet Gray, MD	University Hospital Southampton, UK (lead institution), University of Wisconsin, Madison, University Medicine, Greifswald, Germany, and University Hospital London
Ph I Trial - Polio Virus Oncolytic Virotherapy using PVSRIPO for children with high-grade brain tumors	Dr. Matthias Gromeier, MD	Duke University Cancer Institute

SOLVING KIDS' CANCER, INC.

STATEMENT OF ACTIVITIES AND CHANGES IN NET ASSETS
YEAR ENDED DECEMBER 31, 2016
(With Summaraized, Comparative Totals for the Year Ended December 31, 2015

	Unrestricted	Temporarily Restricted	Total	2015 Total
CONTRIBUTIONS AND OTHER SUPPORT:				
Individual contributions	$ 72,477	10,000	82,477	36,333
Corporate contributions	167,992	65,000	232,992	157,677
Foundation contributions	20,860	345,000	365,860	140,500
Special events, net of expense	187,810	294,525	482,335	395,926
Interest income	4,821		4,821	5,202
	453,960	714,525	1,168,485	735,683
Net assets released from restrictions	411,358	(411,358)		
Total Contributions and Other Support	865,318	303,167	1,168,485	735,683
EXPENSES				
Program services	760,800		760,800	767,265
Management and general	276,625		276,625	323,137
Fundraising	184,921		184,921	213,774
Total Expenses	1,213,346		1,213,346	1,304,174
CHANGES IN NET ASSETS	(348,028)	303,167	(44,861)	(568,583)
NET ASSETS				
Beginning of year	2,028,455	483,450	2,511,905	3,080,433
End of Year	$ 1,680,427	$ 786,617	$ 2,467,044	$ 2,511,905

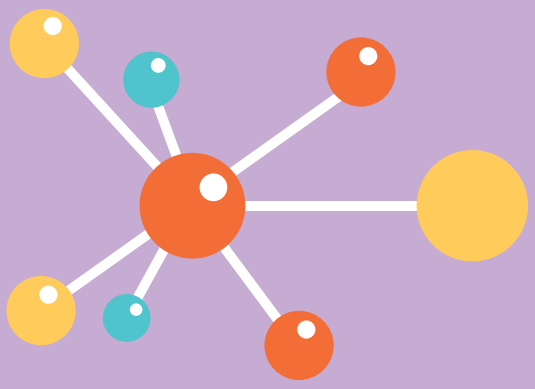




The Impact of Solving Kids' Cancer

This snapshot shows just how far Solving Kids' Cancer has come in making significant achievements for children with neuroblastoma,sarcomas and brain tumors.

30
PROJECTS HAVE BEEN FUNDED



7
PRE-CLINICAL PROJECTS

23
CLINICAL TRIALS

14
agents were validated for further use in combination with other drugs

4 out of **7**
pre-clinical projects led to further study

18
new treatment options were brought to the clinic

6
new pathways for treatment were discovered or targeted for the first time

Clinical Research Portfolio

Project Title: Phase I Nifurtimox for Relapsed or Refractory Neuroblastoma

Institution: University of Vermont/Vermont Cancer Center

Status: Completed

Summary: After one of SKC's co-founders discovered a case study report describing that Nifurtimox (a drug used to treat a parasitic disease) led to dramatic results in tumor reduction for children with neuroblastoma, Solving Kids' Cancer quickly brought researchers together to launch a clinical trial using Nifurtimox.

Impact: The trial accrued rapidly, and the results were published in the January 2011 issue of the Journal of Pediatric Hematology Oncology. A multicenter phase II study was launched.

Project Title: Phase II Nifurtimox for Refractory Neuroblastoma or Medulloblastoma

Institution: Van Andel Institute

Status: Ongoing

Summary: After the successful completion of the phase I trial, Solving Kids' Cancer launched a phase II trial to test Nifurtimox in more children with neuroblastoma, and also in children with medulloblastoma, a deadly type of brain tumor.

Impact: The clinical trial remains open and has enrolled 105 children through 13 different centers in the U.S. 50 children have had clinical responses or stabilized disease.

Project Title: Preclinical Neuroblastoma Drug Discovery and Development Program

Institution: The Hospital for Sick Children, Toronto

Status: Completed

Summary: Researchers isolated neuroblastoma cancer stem cancer cells from patients, and screened hundreds of drugs against them. The best drug candidates were tested in animal models with tumors and the most promising agents to come out of these studies were proposed for testing in children.

Impact: An agent was identified as having activity against neuroblastoma stem cells. A drug called rapamycin (sirolimus) was selected for a phase I clinical trial at many cancer centers in the North America.

Project Title: Phase I Vaccinia Virus JX594 for Relapsed/Refractory Neuroblastoma and Other Pediatric Solid Tumors

Institution: Cincinnati Children's Hospital, Texas Children's Hospital

Status: Completed

Summary: Solving Kids' Cancer initiated and funded the first trial using JX594, a virus strain derived from the same vaccine used to eradicate smallpox, for children with solid tumors. JX594 had been previously tested in adults with cancer showing beneficial results.

Impact: This study proved that oncolytic viruses can be

administered to children safely and effectively. Including a child whose tumor volume decreased after a direct injection of the virus. Vaccinia viruses are now being considered as a top candidate for combination therapy with T-Cell immunotherapy and vaccines.

Project Title: Reduced Intensity Haploidentical Transplantation With NK Cell Infusion for Pediatric Acute Leukemia and High Risk Solid Tumors

Institution: University of Wisconsin Madison

Status: Completed

Summary: Prior research has shown that patients have significantly better survival and a very low relapse risk if the donor's natural killer (NK) cells are activated in the patient's system. In this trial, NK cells from the donor-parent are given

to the child after the haplo stem cell transplant.

Impact: This was one of the first studies to use haploidentical stem cell transplants in the United States. This is an important development as the approach has shown some success in sustained remissions after relapse in children treated in Germany.

Project Title: Preclinical Oncolytic Virus Development Program for Neuroblastoma

Institution: Children's Hospital of Eastern Ontario Research Institute

Status: Completed

Summary: Solving Kids' Cancer developed a novel program to harness cutting-edge technology to identify promising viruses to kill cancer cells. Maraba MG1 was tested in neuroblastoma cell lines grown from patients, including isolated cancer stem cells (tumor initiating cells), which were identified in a previous research project by Solving Kids' Cancer.

Impact: An oncolytic virus known as the Maraba virus was identified as the most likely to be effective in treating neuroblastoma.

Project Title: Phase I Vinblastine and Sirolimus in Pediatric Patients With Recurrent or Refractory Solid Tumors Including CNS Tumors

Institution: The Hospital for Sick Children, Toronto

Status: Completed

Summary: A drug called sirolimus, or rapamycin, is currently approved for preventing rejection in organ transplant patients. Researchers discovered rapamycin was very effective in killing neuroblastoma cells, which led to a phase I clinical trial testing this drug with another cancer drug as a combination therapeutic option.

Impact: The results were published in the January 2014 issue of Pediatric Blood Cancer and showed a partial response in one patient and stable disease in three children. The result of this study led other researchers to investigate the next generation of these inhibitors in other clinical trials.

Project Title: Dose Escalation Study of Intratumoral Herpes Simplex Virus1 Mutant HSV1716 Oncolytic Virus in Patients With Non-CNS Solid Tumors

Institution: Cincinnati Children's Hospital

Status: Ongoing

Summary: HSV1716 (Seprehvir) is a "first in class" engineered oncolytic virus derived from the herpes simplex virus, and has been beneficial for treating cancer patients in Europe in early trials. Solving Kids' Cancer brought this cutting-edge research to the U.S. and developed the first clinical trial for children in 2010.

Impact: This trial has been amended to include intravenous administration in addition to intratumoral route, which increases the potential for efficacy.

Project Title: Preclinical Drug Development Program for Neuroblastoma Stem Cells

Institution: The Hospital for Sick Children, Toronto

Status: Completed

Summary: Researchers designed a method to isolate

populations of neuroblastoma cells with the properties of cancer stem cells. The goal of this project was to identify good targets and drug candidates to best kill these cells. Several new drugs are currently under evaluation for use in future clinical trials.

Impact: The results of the study were published in the February 2011 issue of Cancer Research and confirmed that the PI3K1 target identified and supports the rationale for further research using these agents in children with neuroblastoma.

Project Title: CHK1 Inhibition as Therapeutic Strategy for Children With Medulloblastoma and Neuroblastoma

Institution: Children's Hospital of Philadelphia

Status: Completed

Summary: Drugs called CHK1 inhibitors are able to sensitize cancer cells to chemotherapy and radiation. These are currently being used in clinical trials for other cancers and Solving Kids' Cancer created this research project to test CHK1 inhibitors in medulloblastoma and neuroblastoma.

Impact: Evidence from this preclinical work provided the rationale for a phase I clinical trial to open, and is now ongoing.

Project Title: Phase I Image-Guided Convection-Enhanced Delivery of 124I-8H9 Monoclonal Antibody for Diffuse Intrinsic Pontine Glioma in Children

Institution: Memorial Sloan-Kettering Cancer Center

Status: Ongoing

Summary: In this study, children with a deadly brain tumor that cannot be surgically removed are treated with an antibody connected to a radioactive isotope that is delivered directly to the tumor in the brain stem through a novel technique.

Impact: Children internationally have enrolled on this trial and accrual is active. At the higher dose levels a better response trend has been seen including children surviving signigicantly longer than historical outcomes. No children have shown progression while on the study. There has been no dose limiting toxicities or surgical complications.

Project Title: Phase I Combining Decitabine and Vaccine Therapy for Patients With Relapsed Neuroblastoma and Sarcoma

Institution: Kosair Hospital

Status: Ongoing

Summary: A child's immune cells, called dentritic cells, are collected and isolated and "pulsed" with CT (cancer testes) antigens. This technique helps "prime" the immune system to kill cells with those CT targets when reinfused into the patient's immune system in multiple doses.

Impact: The first child treated had a complete response (published in the journal Pediatrics in January 2013) and there were three other positive responses from children with neuroblastoma. The trial has benefited by adaptive design, allowing amendments to improve the study, which now includes lymphodepletion and an immune adjuvant.

Project Title: Pilot Study of Imiquimod and Tumor Lysate Vaccine Immunotherapy for Diffuse Intrinsic Pontine Glioma (DIPG) in Children and Young Adults

Institution: University of Minnesota

Status: Ongoing

Summary: Solving Kids' Cancer identified a novel trial using a cancer vaccine modeled after one that has been used in adults for a deadly brain tumor called glioblastoma. The vaccine has been combined with the drug imiquimod, which enhances the response of the immune system to attack and kill cancer cells.

Impact: The children treated on study thus far have shown no toxicity and no progression while on the study.

Project Title: Improving GD2 T Cell Immunotherapy for Patients With Neuroblastoma

Institution: Baylor College of Medicine

Status: Completed

Summary: Scientists created artificial T cell receptors, called chimeric antigen receptors (CARs), to recognize the GD2 antigen on neuroblastoma cells. Solving Kids' Cancer supported work to develop a new and improved type of GD2 CAR T cells that make the cells perform and persist better to kill cancer cells.

Impact: The development and validation work was completed quickly, met the stated goals and led to a new phase I clinical trial.

Project Title: Adoptive Cell Therapy for Adolescent/ Pediatric Solid Tumors: Part I

Institution: National Cancer Institute Pediatric Oncology Branch

Status: Completed

Summary: Researchers are optimizing the activity of a CAR (chimeric antigen receptor) that targets GD2,

an antigen on neuroblastoma cell by incorporating the chemokine receptor CXCR2 so that it will travel to the tumor site more efficiently. Children with rhabdomyosarcoma, osteosarcoma and Ewing's sarcoma have shown an immune response to this modified approach.

Impact: The preclinical work was completed quickly and resulted in the discovery of two new targets for cellular therapy in pediatric tumors.

Project Title: Phase I hu14.18-IL2 + KIR Ligand Mismatch Natural Killer Cells

Institution: University of Wisconsin-Madison

Status: Ongoing

Summary: Scientists use a novel technique to collect, expand, and infuse a parent's donor NK (Natural Killer) cells into a child. In this trial researchers use a humanized monoclonal antibody known as hu14.18-IL2, which specifically targets neuroblastoma tumor cells and the IL2 stimulates the NK cells in the tumor microenvironment.

Impact: The trial will provide access to a new treatment option with a potential to cure and have very low toxicity.

Project Title: Phase I Highly Active Cell Therapy for Neuroblastoma - RNA-transfected T Cell GD2 CAR

Institution: Children's Hospital of Philadelphia, University of Utah

Status: Ongoing

Summary: Solving Kids' Cancer worked to initiate a clinical trial using CAR T cell therapy targeting the GD2 tumor antigen, which is on the surface of the neuroblastoma cancer cells, that includes transient modification for enhanced safety. The new GD2 T cell CAR is expected to be a better way of treating relapsed and refractory neuroblastoma.

Impact: Solving Kids' Cancer recognized an unmet need and called for the research community to submit ideas of intent to meet the need for improved immunotherapy. This trial is being conducted by a world-renowned team of scientists.

Project Title: Pilot Study Peptide-based Vaccination for Recurrent Ependymomas

Institution: Children's Hospital of Pittsburgh

Status: Ongoing

Summary: Solving Kid's Cancer supported this pilot study, which uses a combination treatment approach of vaccines and drugs to stimulate a child's immune system. This cutting-edge research represents the first immunotherapy trial ever for kids with ependymomas, a deadly brain tumor.

Impact: Three children have enrolled in the trial and one showed stable disease for more than 12 months, with no toxicity.

Project Title: Pilot Study Intra-Arterial Chemotherapy for the Treatment of Progressive Diffuse Intrinsic Pontine Gliomas

Institution: John Hopkins University Hospital

Status: Ongoing

Summary: The study delivers chemotherapy directly into the vertebrobasilar system, which represents a novel way to treat the disease by targeting the blood supply to these tumors. This unique method allows doctors to increase the dose of the drug to kill the cancer, while minimizing toxicity.

Impact: Two children have enrolled in the study, which is showing that drug delivery is feasible and there is rationale for trying new agents with this delivery system to improve outcomes in this deadly tumor.

Project Title: Preclinical Development of an Anti-ALK Antibody for Neuroblastoma

Institution: Children's Hospital of Philadelphia

Status: Ongoing

Summary: Researchers believe that a new antibody which targets the surface antigen ALK on neuroblastoma will alert the immune system to attack the cancer with few side effects in normal tissue. This research is to develop, test, and produce clinical grade anti-ALK antibody for future testing in children.
Impact: This research has identified a drug antibody
conjugate, which will target ALK expressing neuroblastoma with a cytotoxic payload. This is an original approach and will be available in a clinical trial in 2016.

Project Title: Phase I/II MK1775 Wee1 Inhibition + Irinotecan for Medulloblastoma and Neuroblastoma

Institution: Children's Hospital of Philadelphia

Status: Completed

Summary: In this research project, a combination drug treatment that uses chemotherapy with inhibitors of DNA repair proteins (CHK1 or Wee1) causes cancer cells to become more sensitive to cytoxicity. This new treatment is being tested in children with medulloblastoma and resistant neuroblastoma.

Impact: This trial is available in the Children's Oncology Group phase I consortium centers and is accruing well. If results show activity, this may advance to frontline therapy for newly diagnosed children.

Project Title: Phase I Activated T Cells Transduced With a 3rd Generation GD2 CAR and iCaspase9 Suicide Safety Switch for Neuroblastoma

Institution: Baylor College of Medicine

Status: Completed

Summary: Solving Kids' Cancer supported the preclinical work that led to this current clinical trial using a CAR T cell therapy approach with the goal of bringing the early successes in blood cancers to children with neuroblastoma and other solid tumors.

Impact: The study is designed to be flexible to incorporate advancements immediately, and now includes a breakthrough amendment adding a PD1 antibody (checkpoint blockade), which is a first-in-human combination and is expected to dramatically increase the potential for efficacy.

Project Title: NEPENTHE (MATCH NB) - Phase I Trial Matching Targeted Agents Based on Next-Generation Sequencing

Institution: Children's Hospital of Philadelphia

Status: Opening in 2016

Summary: By understanding the genetic features of a tumor, researchers are able to use specific drugs that interfere with certain cell processes that cause unrestricted growth. Although researchers have discovered a few specific genetic abnormalities for neuroblastoma, a few potentially effective investigational drugs have been identified that may produce dramatic responses in children with chemoresistant disease.

Impact: This is the first precision medicine trial for children that will robustly analyze the genomics and epigenomics of cancer and use combinations of investigational drugs to target specific mutations and alterations in the tumors.

Project Title: Pilot Study of High Intensity Focused Ultrasound (HIFU) for Unresectable Neuroblastoma

Institution: The Hospital for Sick Children, Toronto

Status: Opening in 2016

Summary: This clinical trial uses a new technology for childhood cancer called "High Intensity Focused Ultrasound guided by Magnetic Resonance." This next generation experimental therapy destroys tumor tissue with targeted rapid temperature elevation, while leaving adjacent tissue and organs completely unaffected.

Impact: This clinical trial will be the first time this noninvasive new technology will be tried in children with abdominal tumors that cannot be surgically removed.

Project Title: Phase 1 Anti-PD1 Nivolumab in Children with Brain Tumors

Institution: Memorial Sloan-Kettering Cancer Center; Johns Hopkins University Hospital

Status: Opening in 2016

Summary: Recent results from clinical trials in adults with various tumor types have shown exciting results. Nivolumab has not yet been studied in any children with brain tumors. This phase I trial will study the safety of nivolumab in children with recurrent brain tumors and then perform another phase I study of the combination of ipilimumab and nivolumab.

Impact: This trial is the first time this exciting immunotherapy approach is being used in children with brain tumors.

Project Title: Phase I Activated T Cells Armed With GD2 Bispecific Antibody in Children and Young Adults With Neuroblastoma and Osteosarcoma

Institution: Karmanos Cancer Center; Memorial Sloan-Kettering Cancer Center

Status: Ongoing

Summary: This trial studies the side effects and best dose of activated T cells armed with GD2 bispecific antibody and how well they work in treating patients with neuroblastoma, osteosarcoma, and other GD2+ solid tumors.

Impact: This study will provide new information on whether infusions of these activiated T cells will not only kill the tumor but also "vaccinate" the patients against their own cancer resulting in significant improvement in survival for patients with relapsed GD2+ tumors.

Project Title: Ph I Clinical Trial of Tumor Antigen-Specific Cytotoxic T-Lymphocytes (CTLs) for children with neruoblastoma and sarcomas

Institution: Texas Children's Hospital/Baylor College of Medicine

Status: Ongoing

Summary: This trial will uses a child's own immune cells (T-cells) as a novel cancer-fighting immunotherapy for children who relapse or whose cancer doesn't respond to chemotherapy.

In a new approach to cell therapy, researchers are enriching the T-cells them to target three different cell-surface targets (tumor antigens) found on both neuroblastoma and sarcoma tumors. In the first trial of it's kind in children with these cancers, researchers believe that going after multiple tumor targets will increase the likelihood of cancer-killing while providing a non-toxic treatment.

Impact: If the study proves that a patient's own cytotoxic T-cells (CTL's) can be effective and safe anti-tumor therapies, this cell therapy can become part of standard first-line treatment and may alleviate the need for some components of intensive chemotherapy. Additionally, researchers believe that CTL therapy may be useful at the end of treatment to prevent relapse and induce permanent remissions.

Project Title: A Phase I/II clinical trial of next-generation ALK-inhibitor (PF3922) in children with relapsed/refractory ALK-driven neuroblastoma.

Institutions: NANT consortium (13 cancer centers); Royal Marsden Hospital UK

Status: Planned

Summary: Multiple preclinical studies across several independent laboratories confirmed highly significant results in specific patient-derived models of ALK-driven neuroblastoma, including resistant disease, using a second-generation targeted ALK inhibitor. A consortium of

investigators have planned a unique clinical trial design that will implement a precision medicine approach to rapidly enroll neuroblastoma patients with specific ALK genomic abnormalities. The investigators in partnership with Pfizer have designed the trial to qualify as a registration trial for this agent, specifically for neuroblastoma if proven safe and effective.

If successful, researchers will use PF3922 as part of standard frontline therapy for all children with ALK-driven neuroblastoma.

Impact: SKC advocated for this study to be transatlantic, with an additional site open in the UK.

The trial will provide broad access for all children determined to have ALK-driven neuroblastoma.

The trial is the direct application of using genomic information for precision medicine so that children with specific mutations will have a targeted therapy to impact their disease. The trial is planned to open in 2016.

Project Title: Ph I Trial - Polio Virus Oncolytic Virotherapy using PVS-RIPO for children with high-grade brain tumors

Institution: Duke University Cancer Institute

Status: Opening in 2016

Summary: Observations dating back more than 100 years have indicated the enormous potential of viruses to fight cancer. Advances in the genetic engineering of viruses to ensure safety and enhance efficacy have impacted the landscape in recent years. This study will use a form of the polio virus that has been re-engineered to have tumor killing properties (and not cause polio) in children with high-risk brain tumors for the first-time. The trial is based on promising results from a trial for adults with glioblastoma brain tumors in which several patients are long-term survivors of up to 42-months after treatment versus a historically fatal prognosis of 12-months survival.

Impact: Based on the promising early results of the adult trial, SKC worked with researchers to create this study as rapidly as possible for children. The FDA is evaluating PVS-RIPO for breakthrough designation that would provide a fast-track approval for universal use of the oncolytic virus for high-risk brain tumors. If PVS-RIPO can be used as a first-line treatment for children, this has the potential to reduce severe chemotherapy-induced side-effects and provide an effective therapy where there once was none.

Project Title: A phase I study of 131-1 MIBG, nivolumab and ch14.18/CHO in relapsed / refractory neuroblastoma

Institution: University Hospital Southampton, UK (lead institution), University of Wisconsin, Madison, University Medicine, Greifswald, Germany, and University Hospital London

Status: Opening in 2016

Summary: Solving Kids' Cancer worked to initiate a clinical trial to substantially improve the cure-rate of children with relapsed or refractory neuroblastoma by combining anti-GD2 antibody with MIBG targeted radiotherapy and a new anti-PD1 antibody (nivolumab). This synergistic combination of immune-based therapies is expected to be highly effective and provides a less toxic treatment option with low-treatment burden on families.

Impact: For the first time in pediatric cancer research, charities are collaborating to drive an ambitious US-EU initiative to address unmet needs in children with cancer. Solving Kids' Cancer is leading this collaborative effort and supporting world-renowned team of experts conducting this high-profile international clinical trial that has potential to impact the future of standard therapy.

Board of Directors

John London
Co-founder, Chair
John London co-founded Solving Kids' Cancer in honor of his daughter Penelope, who once told him "I want no one to feel yucky Daddy." He is Board Chair of Solving Kids' Cancer and serves as a strategic advisor in all areas of therapeutic development. John is a Portfolio Manager at Hudson Bay Capital. He has an MBA from The Wharton School of Business, University of Pennsylvania and a Bachelor of Arts from Brown University.

Scott Kennedy
Co-founder
Scott Kennedy co-founded Solving Kids' Cancer as a tribute to his son Hazen, who was diagnosed with neuroblastoma at age 3. As Senior Director of Mission Programs, Scott is integrally involved in the identification, funding, and management of the organization's scientific programs. He has a BS in Chemistry and Psychology from Indiana University and an MBA from the Asian Institute of Management.

Catherine London, JD
Co-founder
Catherine London co-founded Solving Kids' Cancer in honor of her daughter Penelope with her husband John London. An author and writer, Catherine was previously a prosecutor at the New York County District Attorney's Office. She graduated from New York Law School and has a BA from Brown University.

Khalil Barrage
Khalil Barrage is a Managing Director based in New York. He joined Invus in 2003 and set up the public equity group, of which he is in charge globally. Prior to joining Invus, Khalil was a portfolio manager with The Olayan Group, New York in charge of its U.S. equity group. Khalil holds a BA from the American University of Beirut. He is a board member of the Children of Armenia Fund.

Mark Savoye
Mark N. Savoye is a Vice President and Senior Business Leader, North American Processing, ESS and Network Solutions at Mastercard. He joined MasterCard in 2008; prior to joining MasterCard, Mark served as a Director at American Express. Mark holds a Bachelor of Science degree from New York University Stern School of Business in Marketing and International Business.

Ari Spar
Ari Spar is a Managing Director at Barclays Capital with more than 20 years of experience as a financial advisor. Ari was previously a Managing Director with Lehman Brothers. He graduated from the University of Michigan.

Channing Stave, PhD
Channing Stave is Executive Vice President and COO of Disruptyx, a boutique market consulting firm with a unique heuristics-based focus in life sciences, financial services, and retail. Prior to co-founding Disruptyx, he held leadership positions at IBM, Pfizer, and Express Scripts. He has a PhD from New York University in Organizational Psychology and a BA from Columbia University. He is a founding board member of Solving Kids' Cancer and currently serves as Secretary. He is also an executive advisor to Baruch's Zicklin School of Business Consulting Organization.