

The Ted Mullin Fund's Impact at the University of Chicago Medicine

September 2012



THE UNIVERSITY OF
CHICAGO
MEDICINE &
BIOLOGICAL
SCIENCES

The Ted Mullin Fund is in its sixth year of partnership with the University of Chicago Medicine (UCM) and is continuing to advance pediatric sarcoma research in order to improve outcomes for pediatric and adolescent/young adult sarcoma patients. This year, the Ted Mullin Fund has supported multiple projects that are critical to ongoing scientific breakthroughs in sarcoma research.



In the summer of 2012, the UCM hosted five inaugural Ted Mullin Fund Interns, who spent their summers working on unique laboratory research projects. Erik Klontz, a student at Ted's alma matter, Carleton College, worked with John Cunningham, MD, professor and chief of pediatric

hematology and oncology. Klontz studied Erythroid Knüppel-like Factor (EKLF), a transcription factor which is essential to the proper maturation of erythroid, red blood cells. His research helped to better explain transcription factors and oncogenesis, the formation and development of tumors. Ashley Paquin, also a student at Carleton College, worked with Dr. Sue Cohn to study cyclophosphamide, a chemotherapy drug used to treat and terminate the growth of cancer. Paquin also analyzed other common chemotherapy drugs to determine why some of these drugs were causing poorer response outcomes among African-American patients. University of Chicago student, Tony Restaino, researched leukemia in Dr. Jill De Jong's laboratory using a zebrafish model to learn how Host versus Graft (HvG) disease, a common side-effect of stem cell transplantation, can be prevented. Alex Penev, another student from the University of Chicago, worked in Cunningham's laboratory, researching induced pluripotent stem cells (iPS cells), adult cells that have been genetically reprogrammed to become stem cells. He also studied the function of EKLF cells and the Glis1 protein, and their role in cancer development and growth. Finally, Miami University student, Lucy Rubin, worked with Dr. Tara Henderson on the Childhood Cancer Survivors Study, an integrated program aimed at the prevention and treatment of long-term cancer for both pediatric and adult cancer survivors. While the focus of their research was broad, the Ted Mullin Fund Interns have generated new knowledge that will have impact in sarcoma specifically and across pediatric and adult cancers.

Adolescents and young adults diagnosed with “pediatric” sarcomas will now have the opportunity to be treated at the new Adolescent and Young Adult (AYA) Oncology Clinic at the Comer Center for Children and Specialty Care. Dr. Cunningham established the AYA Oncology Clinic to provide improved services and treatment outcomes to young adults with cancer, in addition to focusing research on this unique patient population. The late Dr. James Nachman, Ted’s oncologist, in partnership with an adult oncologist, Wendy Stock, MD, demonstrated that AYA patients have better outcomes if treated in a pediatric setting, versus an adult setting. Their vision of bridging pediatric and adult oncology became the inspiration for the AYA Oncology Clinic. The clinic opened on August 1, 2012 and is staffed by both pediatric and adult oncologists, surgeons, radiation oncologists, and rehabilitation physicians. Jennifer McNeer, MD, MS, is an assistant professor who trained under Dr. Nachman, and is working with Dr. Stock to develop a survey that reveals the psychosocial effects of cancer on patients entering adulthood. UCM is furthermore building out its staff, in order to meet the unique needs of this patient population, and has plans to hire a research psychologist in the autumn of 2012 to support the psycho-social aspect of care.



Limited federal funding for sarcoma research makes clinical trials all the more significant. Yusuke Nakamura, MD, PhD was recently recruited to UCM from Japan, where he served as the Secretary General in the Japanese government’s Office of Medical Innovation. He is a leading authority in cancer genomics and is using large-scale genomic screening studies to better understand cancer and other genetic diseases. Over the course of many years in Japan and through his company OncoTherapy Science, Dr. Nakamura developed a synovial sarcoma antibody drug. Ted had this rare form of aggressive soft-tissue cancer that usually occurs near the joints of the leg and arm. Dr. Nakamura is conducting the clinical trials in France where synovial sarcoma patients are being treated with the new antibody drug and hopes to bring this and other trials to UCM in the next year as he builds new collaborations with Chicago’s pediatric oncology faculty.

Genetics play an important role in determining the response rates to specific cancer treatments. Dr. Navin Pinto, clinical instructor of pediatric hematology and oncology, is working to identify the genetic factors that may explain why some sarcoma patients are resistant to chemotherapy. In partnership with Dr. M. Eileen Dolan, professor and director of the Pharmacogenomics Core

Facility, Dr. Pinto is taking white blood cells from healthy volunteers all over the world and treating the cells with cyclophosphamide, a chemotherapy drug used to treat a variety of pediatric cancers, including leukemia, lymphoma, sarcoma, and neuroblastoma. He is determining the genetic changes associated with chemotherapy resistance by comparing the sensitivity or resistance that these cells have against their own genetic code. Dr. Pinto aspires to use this genetic information to better identify the patients who could be at risk for treatment failure before chemotherapy sessions begin, in order to offer them a more personalized therapy. He will also have a key role in implementing new experimental sarcoma drug trials within the AYA Oncology Clinic, in order to bridge new scientific discovery to clinic for the benefit of patients.

There is no better way to honor Ted than knowing that the Fund in his honor will help so many others and will pave the way for future advances in the field for many years to come. Thank you for participating in our vision to improve outcomes for pediatric and adolescent/young adults with sarcoma. We also thank all of those who have contributed time, effort and money to help build the Fund.