

The 2011 Andrew H. Weinberg Symposium

By Carlos Rodriguez-Galindo, M.D., Associate Professor, Department of Pediatrics, Harvard Medical School; Director, Solid Tumor Program, Pediatric Oncology, Dana-Farber Cancer Institute

Dr. Peter Adamson, Chair of the Children's Oncology Group and one of the leaders in the development of new therapies in childhood cancer, was the invited speaker at the 2011 Andrew H. Weinberg Memorial Lecture. In his talk '*Childhood Cancer Research: 21st Century Science, 20th Century Clinical Trials*', Dr. Adamson provided an overview of the current status of pediatric cancer research and outcomes and provided a critical outlook for the future.

Over the last several decades, we have witnessed a major change in the landscape of pediatric cancer; once considered to be a death sentence, most children with cancer are now cured. Multiple factors have contributed to this success, including better characterization of the neoplasms as well as improvements in diagnosis, treatment, and supportive care. However, this is not without a price; many survivors of childhood cancer suffer severe long-term effects that limit their quality of life, and studies have shown that there is a 10.4 year loss in life expectancy in survivors.

Thus, the major challenge the new generations are facing is how to continue to increase the cure rates while decreasing the acute and long-term side effects as we enter the new era of discovery and our knowledge of the molecular pathogenesis of childhood cancer increases. Advances in the biological characterization of neoplasms have led to the identification of molecular targets that may allow for the incorporation of novel agents into our armamentarium. An example is the discovery of mutations in the *alk* gene in neuroblastoma and the possibility of using crizotinib, a selective *alk*-inhibitor, for the treatment of this malignancy.

However, as new molecular targets are identified and new biological agents are developed, we need to rethink how we will be designing and conducting clinical trials. Advances in science call for new approaches in clinical trial development that facilitate rapid translation of biological findings into the clinic. The Children's Oncology Group, the world's largest cooperative group in pediatric cancer research, is currently undergoing an in-depth analysis of current clinical trial development and resource allocation with the goal of optimizing basic science research, facilitating rapid translation into clinical trials, and developing effective clinical trials for rare pediatric cancers and small subsets of more common cancers. Extending the benefits of cancer research to all children with cancer rapidly, effectively, and efficiently should be our major goal.