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EDITORIAL

Pediatric Blood and Marrow Transplantation: State of the Science

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Over 50 years have passed since the original reports by Thomas *et al.*[1,2] on the use of hematopoietic stem-cell transplantation (HSCT) in children and adolescents. Since that time, there has been considerable progress and success of HSCT in a large variety of pediatric malignant and nonmalignant conditions. Furthermore, there has been a considerable expansion of pediatric diseases successfully treated following HSCT, utilization of new alternative donor stem-cell sources, new developments in conditioning regimens, introduction of innovative gene therapy strategies, creation of novel adoptive cellular immunotherapy approaches and identification of specific late effects in pediatric HSCT recipients. The field of pediatric HSCT has blossomed over the past half century and the successes to date have not only benefited pediatric HSCT recipients but provided critically important results that have also improved the outcome of adult recipients.

In this special issue of *Bone Marrow Transplantation*, we have gathered together some of the leading and internationally renowned experts in the field of pediatric HSCT to provide an up-to-date review of 'Pediatric Blood and Marrow Transplantation: State of the Science'. The first four papers are focused on the state of the science of HSCT in childhood nonmalignant diseases, including metabolic/storage disease, sickle cell anemia/thalassemia, primary immune deficiency and aplastic anemia/Fanconi anemia. The next five manuscripts are devoted to the state of the science of HSCT in pediatric malignant conditions, including acute lymphoblastic leukemia, acute and chronic myeloid leukemias, lymphomas, neuroblastoma and central nervous system tumors.

In the latter part of this special issue, there are seven manuscripts that review the state of the science in special areas of pediatric HSCT, including reduced intensity conditioning, alternative allogeneic donor sources, gene therapy, adoptive cellular immunotherapy for malignant disease, adoptive cellular immunotherapy for viral diseases, graft-versus-host disease, and growth and development late effects in pediatric HSCT recipients. The increasing success and significantly enhanced understanding of the unique biological issues associated with pediatric HSCT has greatly accelerated the growth and depth of our specialty. On behalf of all the contributors to this special issue on Pediatric Blood and Marrow Transplantation: State of the Science, we would like to thank the Nature Publishing Group (NPG) for their significant support for the development of this special issue, the Editor, Professor John Goldman, Associate Editor, Hillard Lazarus, MD, Executive Editor, Haroon Ashraf and, most importantly, editorial assistance from Linda Casey and Erin Morris, RN. As the saying goes, 'We have come a long way, baby, but the party has just begun'. Pediatric HSCT has clearly come into its own and is a distinct subspecialty within the global field of Blood and Marrow Transplantation.

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