Mini-Size Me: "Mini-Allo" Stem Cell Transplants

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At the time of diagnosis, hematologic malignancies are usually sensitive to traditional chemotherapy regimens, and complete remissions can frequently be achieved. As practicing hematologists are all too aware, these responses are often short-lived, with disease relapse frequently being the outcome. Although second and third remissions are sometimes attainable, allogeneic hematopoietic stem cell transplantation (HSCT) may offer the only realistic chance of long-term disease control. Due to the aggressive nature of traditional conditioning regimens, allogeneic transplantation has historically been limited to younger patients. With the development of so-called reduced-intensity allogeneic transplants or "mini allos," however, HSCT is now becoming a viable treatment option for patients in the 60-70 age range, as well as for those with co-morbidities that would ordinarily preclude eligibility. Also, given the relatively low treatment-related mortality of mini-allos, HSCT is now being explored as a treatment for various non-malignant disorders including the hemoglobinopathies and certain autoimmune diseases.

At yesterday's Education Session on Reduced-Intensity Allo BMT (to be repeated today at 9:30 a.m.), several experts in the field offered an excellent overview of this exciting and rapidly expanding approach. Dr. Brenda M. Sandmaier began the session with an introduction to the rationale and general indications for reduced-intensity HSCT. She continued with a discussion of the incidence and severity of graft-versus-host disease (GVHD) following nonmyeloablative transplants, and how this relates to the likelihood of disease relapse. She also reviewed the acute myeloid leukemia (AML), myelodysplastic syndrome (MDS), and chronic myeloid leukemia (CML) literature, focusing on the outcomes of reduced-intensity transplants versus traditional myeloablative regimens. Next, Dr. Issa F. Khouri discussed the role of nonmyeloablative allogeneic HSCT in the management of several of the most important lymphoid malignancies including follicular non-Hodgkin lymphoma, mantle cell lymphoma, and chronic lymphocytic leukemia (CLL). Particular attention was directed at the clinical outcomes following nonmyeloablative allogeneic transplants compared to conventional autologous approaches.

Dr. Franco Locatelli concluded the program by discussing the use of mini-allos for the management of sickle cell disease and thalassemia major. Patients with these disorders are often allo-immunized as a result of frequent blood product exposure, and are particularly difficult to engraft with reduced-intensity regimens. Dr. Locatelli discussed conditioning approaches that maximize the chances of securing a stable graft in the nonmyeloablative transplant setting. He also highlighted clinical parameters that can be used by physicians and patients to estimate transplant-related risk when considering HSCT for non-malignant disease.

For those wishing to learn more, several Education Sessions highlight reduced-intensity transplantation in the context of specific hematologic malignancies. Yesterday, Dr. Wendy Stock discussed reduced-intensity allogeneic HSCT as consolidation therapy for elderly AML patients not eligible for ablative therapy. You may wish to attend a talk today by Dr. Jane F. Apperley (CML, 7:30 a.m.), and Dr. Sundar Jagannath's presentation tomorrow morning as part of ASH's Education Spotlight Sessions (Multiple Myeloma, 7:30 a.m., tickets required). Finally, several of the oral sessions will include interesting presentations addressing reduced-intensity HSCT. Look for "Clinical Results: Allogeneic Matched Related Donor Transplantation I and II" (today at 4:30 p.m. and tomorrow at 11:00 a.m.), and "Clinical Results: Alternative Donor Transplantation and Reduced Intensity Preparative Regimens" tomorrow at 3:30 p.m.