Hematopoietic stem cell transplantation in China

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Abstract

Hematopoietic stem cell transplantation (HSCT) has been applied in China for about 30 years, the number of HSCT has been increasing, donor and stem cell sources were expanded, indication of diseases and patients for HSCT extended. Up to now, 102 medical units nationwide have earned the certificate to perform HSCT. The annual increase rates were 8.8% to 10.8%. Matched sibling donor is 41%, mismatched related/haploidentical donor is 24%, unrelated volunteer donor is 16%, and umbilical cord blood is 2%. The indications of major disease entities are acute myeloid leukemia (AML, 35%), acute lymphoblastic leukemia (ALL, 25%), chronic myeloid leukemia (CML, 21%), and myelodysplastic syndrome (MDS, 8%). The most encouraging outcome of related haploidentical HSCT in the world has been proved in the novel system without ex vivo T-depletion due to the contributions that Chinese doctors made. In contrast to CD34+ selected related haplotype transplants, Peking University developed an unmanipulated haploidentical transplantation with granulocyte colony-stimulating factor (G-CSF) primed marrow grafts and G-CSF mobilized peripheral blood grafts (G-PB) as stem cell source. Comparable incidence of graft-versus-host disease (GVHD), transplantation-related mortality (TRM) and the probability of survival were found among patients who received haplotype transplants and those from HLA identical sibling or unrelated HSCT. Consequently, the total number of related haploidentical HSCT is increasing during the past four years, and now accounts for about 30% of that of whole allogeneic HSCT. The Chinese Stem Cell Donor Database Management Center was established in 2001. As of August 31, 2010, there are 1,149,189 volunteers in the Chinese Marrow Donor Program (CMDP), with 1,807 blood stem cell cases.

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