

## Has the time for haploidentical transplant arrive for all patients? The Beijing experience

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Allogeneic hematopoietic stem cell transplantation (allo-HSCT) is an effective and sometimes the only curative therapy for patients with certain hematological diseases. However, many patients do not have an HLA-matched sibling donor. Peking University researchers developed a novel approach for HLA-mismatched/haploidentical myeloablative blood and marrow transplantation (Haplo-HSCT) without *in vitro* T cell depletion within the past 10 years (the GIAC protocol). This protocol includes: treating donors with granulocyte colony-stimulating factor (G-CSF), intensified immunological suppression, antithymocyte globulin (ATG), and combination of G-CSF-primed bone marrow harvest (G-BM) and G-CSF-mobilized peripheral blood stem cell harvest (G-PB) as the source of stem cell grafts. A single-center study reported Haplo-HSCT using the GIAC protocol has similar LFS/grade, III-IV aGVHD/extensive, chronic GVHD compared with HLA-matched sibling transplantation or matched unrelated donor transplantation. Haplo-HSCT is also superior to chemotherapy as post-remission treatment for intermediate or high risk AML in CR1. To date, haplo-HSCT accounts for approximately 30% of the total allo-HSCT cases per year in China, and over 60% in Peking University People's Hospital.

The strategies to improve the clinical results of Haplo-HSCT include 1. Modified Donor Lymphocyte Infusion(DLI); 2. Manipulating the Graft. Optimize donor selection with KIR ligand match/mismatch; 3. The application of IL-2 to improve the recovery of immune reconstitution.

Patients receiving Haplo-HSCT can achieve desirable health related quality of life (HRQoL) and nonmalignant late effects that were comparable to that of patients receiving HLA-identical sibling allo-HSCT.

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