

# The Prevention and Treatment for Graft-versus-Host Disease -an update

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王博南

林口長庚紀念醫院 血液腫瘤科

More than 20,000 allogeneic hematopoietic stem cell transplantations (allo-HSCTs) are performed each year worldwide, primarily for the treatment of hematologic malignancies. Several technical innovations implemented in allo-HSCT over the past 20 years have reduced non-relapse mortalities by 50% and improved overall survival.

Clinical practice has changed from the uniform use of HLA-matched sibling donor bone marrow transplantations and myeloablative conditioning to a much more complex field. The introduction of peripheral blood, cord blood, haploidentical transplantations and reduced-intensity conditioning (RIC) regimens, an relative older patient population, and different diagnoses have modified and made it more difficult to study factors that affect the risks and incidence of GvHD today. Nevertheless, acute GvHD and chronic GvHD remain a major contributor to transplant related mortality and the most significant barrier to the success of allo-HSCT. Despite prophylactic treatments with immunosuppressive agents, approximately 50% of transplant recipients develop GvHD. Understanding the immunobiology of GvHD and developing effective preventions and treatments are critical to the continuing success of allo-HSCT.