

Allogeneic Hematopoietic Cell Transplantation in Acute Lymphoblastic Leukemia

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Abstract

Acute lymphoblastic leukemia (ALL) with a history of central nervous system (CNS) involvement, either at diagnosis or relapse, poses challenges when the decision is made to proceed with allogeneic hematopoietic cell transplantation (alloHCT), as there is no evidence-based consensus on the best peri-transplantation approach to reduce subsequent CNS relapse risk. Here, we retrospectively analyzed outcomes of 87 patients with ALL and a history of CNS involvement who later underwent alloHCT. Patients with pretransplantation CNS involvement had higher risk of CNS relapse after transplantation (2-year CNS relapse: 9.6% versus 1.4%, $P < .0001$), inferior event-free survival (EFS) (hazard ratio [HR], 1.52; $P = .003$), and worse overall survival (OS) (HR, 1.55; $P = .003$) compared with patients without pretransplantation CNS involvement ($n = 543$). There was no difference in post-transplantation CNS relapse, EFS, or OS among patients presenting with CNS involvement at diagnosis, those with isolated CNS relapse, and those with combined bone marrow and CNS relapse before HCT. Interestingly, neither pretransplantation cranial irradiation, use of total body irradiation-based conditioning, nor post-transplantation prophylactic intrathecal chemotherapy were associated with a reduction of CNS relapse risk after transplantation. Thus, among the patients in the cohort studied, there was no clear benefit of CNS-directed therapy in the peri-transplantation period among patients who had prior CNS involvement and underwent subsequent alloHCT.

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Biography

Dr. Ibrahim Aldoss, MD is a Hematology Specialist in Los Angeles, CA. He is affiliated with City of Hope Helford Clinical

Research Hospital. His office accepts telehealth appointments. Dr Aldoss is a brilliant, compassionate and beautiful human being. Such a professional! I'm so fortunate to have him as my Hematologist.