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LETTER TO THE EDITOR

HLA DR15 and Immunobiologic Outcomes

We note with great interest the publication by Stern et al, which evaluated the hypothesis that human leukocyte antigen (HLA) DR15 would reduce relapse rate and improve survival in patients receiving allogeneic stem cell transplantation [1]. We had previously examined this hypothesis in our single center study of 119 consecutive related and 48 consecutive unrelated myeloablative allogeneic blood and marrow transplant (BMT) for myeloid malignancies to investigate the influence of HLA DR15 on overall survival (OS), progression-free survival (PFS), and incidence of grades II to IV acute graft-vs-host-disease (GVHD) [2]. We found no significant difference in OS, PFS, or chronic GVHD, between the HLA DR15-positive versus -negative groups in any disease or donor relation subgroups. However, the HLA DR15-positive myeloid malignancy group experienced a significantly lower incidence of acute GVHD grades II to IV: 23% versus 42% (P = .041). We concluded that HLA DR15 is associated with a reduced risk of acute GVHD in patients with myeloid malignancies.

In contrast, Stern et al found that patients with DR15 had an OS advantage due to a reduced relapse rate without a difference in transplant-related mortality. In addition, they describe a lower rate of grade II-IV acute GVHD (37% vs. 48%, P = .18) in patients with DR15. Their analysis, stratified by lymphoid versus myeloid malignancies, found a significantly reduced risk of acute GVHD in patients with lymphoid malignancies but no difference in patients with myeloid malignancies.

Stern et al have suggested several reasons for the disparity in findings between our 2 studies: the Swiss cohort received predominantly peripheral blood stem cells, 17% received nonmyeloablative conditioning regimens, no patients received triple-agent GVHD prophylaxis, and they excluded matched unrelated donors and excluded patients with serologic HLA-DRB1 typing. In addition to these differences recognized by Stern et al, we emphasize that the Roswell Park cohort focused exclusively on myeloid malignancies treated with myeloablative conditioning regimens to better examine the immunobiologic hypothesis that DR15 preferentially presents immunodominant myeloid antigens. The Swiss patients included 47% myeloid malignancies; results were stratified by lymphoid versus myeloid malignancies for acute GVHD and death from relapse, but not for OS. We have presented data that there are important differences in immunobiologic outcomes based on differential antigen presentation in myeloid versus lymphoid malignancies in patients with HLA DR4 antigen [3,4] (manuscript in preparation).

We support collaborative studies of larger central registry datasets to explore clinical outcomes by HLA-DRB1 antigen status in HLA-matched allogeneic stem cell transplantation.

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