extracorporeal photopheresis. His jaundice and his skin rash resolved, and an MP taper was started. Three weeks later (July 24, 2007) his MP dose was down to 32 mg/day. On August 1, 2007, a follow-up FDG PET-CT scan on that day showed dramatic and complete resolution of the tracer uptake in the multifocal marrow-based lesions as well as resolution of his retroperitoneal adenopathy. The lytic lesions in the marrow demonstrated interval calcification in keeping with response to treatment (Figure 1B). At that time, he was receiving low-dose MP (8 mg/day), tacrolimus (1 mg every other day), and weekly extracorporeal photopheresis. A follow-up bone marrow biopsy (August 17, 2007) showed a hypocellular marrow and no evidence of HL infiltration. At that time the patient’s MP dose had been further reduced to 4 mg/day. At his latest follow-up (October 2, 2007), his HL remains in clinical remission. His MP dose remains 4 mg/day, and his tacrolimus dose is 0.5 mg every other day.

We believe this case provides vivid, objective documentation that a powerful graft-versus-HL effect exists even in patients with disseminated and extensive disease (including marrow involvement), albeit overlapping in this case with severe skin and hepatic GVHD. Although it cannot entirely be ruled out that steroid therapy started for GVHD may have contributed to the most recent response, this patient was known to have advanced, highly refractory disease. Such a rapid and generalized response to single-agent methylprednisolone is unlikely. In addition, his methylprednisolone dose was quite low at the time of his FDG PET-CT restaging and repeat marrow biopsy, and his overall clinical course supports the presence of a graft-versus-HL effect. The immunologic mechanisms underlying this effect are not clear. Whether and how this effect can be harnessed and modulated in a more selective and clinically useful fashion deserves further study.

REFERENCES

inferior overall survival (OS) and event-free survival compared to those with diffuse large B cell lymphoma [2]. High-dose therapy and autologous hematopoietic stem cell transplantation (HSCT) in relapsed or refractory patients have produced 3-yr OS and progression free survival (PFS) rates of 35%-58% and 28%-50% respectively [1,3-5]. These modalities are however not curative for majority of patients with TNHL. Experience with allogeneic HSCT in TNHL is limited, whereas the evidence for graft-versus-T cell lymphoma effect is scant [6,7].

Between May 1997 to February 2007, 14 patients with peripheral T cell lymphoma (PTCL), diagnosed according to World Health Organization lymphoma classification [8], underwent allogeneic HSCT at our institution. Patients with ALK1 positive anaplastic large cell lymphoma (ALCL) were excluded from this analysis. Baseline and treatment characteristics of the patients are shown in Table 1. There were 11 male and 3 female patients with a median age of 43 ys (range 30-52). Histology included PTCL unspecified (n = 5), angioimmunoblastic T cell lymphoma (n = 4), ALCL (n = 2), extranodal NK/T-cell lymphoma, nasal type (n = 2), and panniculitis like T-cell lymphoma (n = 1). Eight patients (57%) had chemosensitive disease, whereas 6 had high or intermediate/high age-adjusted IPI score. Eleven (78%) had advanced stage (III-IV) disease at transplantation. The median number of prior chemotherapy regimens was 3 (range 1-4). Median time from diagnosis to allogeneic HSCT was 12 mos. Donors included matched siblings (n = 9) or unrelated donors (n = 5) (MUD). Eight and 6 patients received myeloablative (MA) and reduced intensity conditioning (RIC) respectively. Antithymocyte globulin (ATG) was administered as part of conditioning regimen in 3 RIC patients.

Median number of CD34+ cells infused was 5.11 × 10^6 cells/Kg. Median time to neutrophil and platelet engraftment was 15 and 24 d respectively. Rates of grade II-IV and III-IV acute graft-versus-host disease (aGVHD) were 50% (n = 7) and 21% (n = 3) respectively. Seven patients developed chronic GVHD (cGVHD). Median follow-up is 34 m (range 10-127mos). Among 12 patients evaluable for response assessment, 8 achieved complete remission (CR) and 4 patients had partial remission (PR) after allografting. Two and 4 patients with refractory disease (RD) and PR before allografting respectively, were in CR immediately following allogeneic HSCT, whereas 3 patients with RD achieved PR following allogeneic HSCT. Day +100 and overall non-relapse mortality (NRM) rates were 28% and 57%, respectively. Cause of death included sepsis (n = 2), invasive fungal infections in patients with GVHD (n = 2), GVHD (n = 2), disease progression (n = 1), sudden cardiac death (n = 1), and post-transplant lymphoproliferative disorder (n = 1). Cumulative incidence of relapse at 3 yrs adjusted for competing risks (non-relapse mortality) was 69%. Kaplan-Meier estimates of 3-yr OS and PFS were 35% and 31%, respectively (Figure 1). On univariate analysis RIC was associated with improved OS (P = .03), but not PFS (P = .12).

<table>
<thead>
<tr>
<th>Table 1. Baseline and treatment characteristics of patients</th>
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<tbody>
<tr>
<td><strong>Sex</strong></td>
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<td>Med Age yrs (range)</td>
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<tr>
<th><strong>Histology</strong></th>
<th><strong>PTCL-NOS</strong></th>
<th><strong>Angioimmunoblastic T cell lymphoma</strong></th>
<th><strong>Anaplastic large cell lymphoma</strong></th>
<th><strong>Extranodal NK/T cell lymphoma, nasal type</strong></th>
<th><strong>Panniculitis like T cell lymphoma</strong></th>
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<tbody>
<tr>
<td><strong>Stage at diagnosis</strong></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td><strong>Bone marrow involvement</strong></td>
<td>Yes</td>
<td>7 (50)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>GVHD prophylaxis</strong></td>
<td>Cyclosporine/MTX</td>
<td>9 (64)</td>
<td></td>
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<tr>
<td><strong>Conditioning regimen</strong></td>
<td>Myeloablative (Bu/Cy)</td>
<td>8 (57)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Refractory disease</strong></td>
<td>CR2</td>
<td>1 (7)</td>
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</table>

aaIPI indicates age adjusted International Prognostic Index; Bu/Cy, busulfan/cyclophosphamide; CR, complete remission; Flu/Bu, fludarabine/busulfan; GVHD, graft-versus-host disease; HSCT, hematopoietic stem cell transplantation; MTX, methotrexate; PTCL-NOD, peripheral T cell lymphoma-not otherwise specified; PR, partial remission.
remission with tapering of immunosuppressive medications in our patients suggests that allogeneic HSCT is associated with a relevant graft-versus-T cell lymphoma effect in TNHL. Five patients in our study with chemo-refractory disease at the time of transplantation showed either a CR or PR following allografting, again supporting immune recognition of TNHL. No disease relapse in patients surviving beyond 1 y in our series hints at the curative potential of this modality. In fact Corradini et al [9] reported impressive 3-yr OS and PFS rates of 81% and 64% in TNHL patients undergoing RIC HSCT. Notably donor lymphocyte infusions (DLI) given to 4 patients at the time of disease progression produced disease response in 2 patients. The sustained response to withdrawing immunosuppression in our series precluded the use of DLI. However, these observations suggest that immune competent cells in the allograft can exert tumor-specific immune responses in TNHL. Larger, prospective studies employing RIC earlier in the disease course are warranted.

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