LymphomaHub

CTCL, PTCL

Allo-SCT outcomes in R/R T-cell lymphoma

Sylvia Agathou | Nov 16, 2018

On 9 November 2018, Gerald Wulf from University Medicine Göttingen, Göttingen, DE, and colleagues, published in *Bone Marrow Transplantation* an outcome analysis of allogeneic stem cell transplantation in relapsed or refractory (R/R) T-cell lymphoma patients.

Salvage chemotherapy is the standard of care for patients with peripheral T-cell lymphoma but leads to disease remission in approximately 30% of patients. Allogeneic stem cell transplantation (allo-SCT) or bone marrow transplantation (BMT) has been considered as a treatment option for R/R T-cell lymphoma patients but its efficacy and safety are still under consideration. The aim of this study was to analyze the outcomes of allo-SCT or -BMT in R/R T-cell lymphoma patients, following conditioning with fludarabine, busulfan, and cyclophosphamide (FBC). Outcome endpoints included overall survival (OS), disease-free survival, non-relapse mortality (NRM), and graft-versus-host disease (GvHD).

Study design

- Study duration: August 2003–April 2013
- N = 84 patients with histological T-cell lymphoma subtype, who were eligible for allo-SCT or BMT
- All patients received lymphoma-myeloablative conditioning (FBC) containing:
  - Fludarabine: intravenously (IV), 25 mg/m^2 per day from Day -8 to Day -4 prior to transplantation
  - Busulfan: orally, 4 mg/kg per day or IV, 3.2 mg/kg per day from Day -6 to Day -4
  - Cyclophosphamide: IV, 60 mg/kg per day on Day -3 and Day -2
- For GvHD prophylaxis, tacrolimus (8–12 µg/L) and mycophenolate mofetil (1 g twice a day until Day 28) were administered on Day -1
- Antithymocyte globulin (ATG) was administered in n = 32 patients, who underwent unrelated or mismatched transplants

Results

- At a median follow-up of 14.5 months (range, 1.5–114):
  - OS: 38.2% (95% CI, 33–44)
  - Disease-free survival: 37.2% (95% CI, 32–43)
  - No disease-related deaths occurred after month 11
- Risk factor analysis revealed that OS was significantly impacted by the following factors:
  - Pre-transplantation International Prognostic Index (IPI) > 3 (poor survival subgroup; $P = 0.001210$)
  - Elevated serum lactate dehydrogenase (LDH)

    - High Eastern Cooperative Oncology Group (ECOG) status
    - Patients with progressive disease (PD) had dismal outcome compared to patients achieving complete response (CR), partial response (PR) or stable disease (SD) in response to salvage chemotherapy (P = 0.0866)
- Donor type or ATG use did not separate patients into different outcome subgroups
- At 100 days post-transplantation (n = 71), the patient status was as follows:
    - CR: 45 patients
    - PR: 7 patients
    - SD: 2 patients
    - PD: 17 patients
- Patients experiencing acute GvHD (aGvHD) had a significantly higher OS (improvement for patients with overall aGvHD Grade 1–4; P = 0.0035). This effect was not seen in patients with chronic GvHD (cGvHD; P = 0.7241)
- NRM occurred in 35 patients:
    - One-year NRM: 13.1%
    - Three-year NRM: 32.3%
    - Five-year NRM: 46%
- The one-year estimate for GvHD- and relapse-free survival was 50.9% (95% CI, 45.4–56.4)

The results of this retrospective analysis revealed that allo-SCT or -BMT provided disease remission in approximately 38% of R/R T-cell lymphoma patients at a three-year follow-up. Moreover, OS was significantly lowered by prior high-dose chemotherapy with autologous SCT, increasing IPI, elevated LDH, ECOG > 1 and remission status before transplantation. According to the authors, allo-SCT is a curative treatment for a number of T-cell lymphoma patients and FBC an efficient conditioning regimen for advanced disease stages.

References

1. Wulf G. *et al.* Allogeneic stem cell transplantation for patients with relapsed or refractory T-cell lymphoma: efficacy of lymphoma-directed conditioning against advanced disease. *Bone Marrow Transplant*. 2018 Nov 9. DOI: 10.1038/s41409-018-0360-9. [Epub ahead of print]