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Influence of Psychological Distress on the Survival of Allogeneic Hematopoietic Stem Cell Transplantation Patients with Hematologic Malignancies: A Case-control study

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Background: The relationships between psychological distress and patient outcomes after allogeneic hematopoietic stem cell transplantation (HSCT) are not known definitively but have potential importance. The objective of this study was to evaluate influence of distress history before or at the time of HSCT on the survival and other secondary outcomes, and to assess possible risk factors of mortality with underwent allogeneic HSCT for hematologic malignancies.

Methods: We performed a retrospective case-control in the Seoul National University Hospital (SNUH) in Korea for period the period from 1 January 2000 through 31 August using electronic medical record to identify case patients with distress and control subjects without a history of distress before or at the time of the HSCT with hematologic malignancies. Secondary outcomes included hospital days, days of engraftment, and usage of analgesics until engraftment after allogeneic HSCT.

Results: A total of 20 patients and 57 control subjects were identified. The factors associated with survival in univariate analysis were high risk group (HR, 3.19; 95% CI, 1.63-6.25, P=0.001), Fludarabine-based conditioning regimen (HR, 0.16; 95% CI, 0.06-0.41, P=<0.001), and Total body irradiation (TBI)-including conditioning regimen (HR, 0.14 95% CI, 0.06-0.39, P=<0.001). Risk factor for survival in multivariate analysis was only high risk group (HR, 3.92; 95% CI, 1.84-8.36, P=<0.001), whereas protective factor was TBI-based conditioning regimen (HR, 0.16; 95% CI, 0.06-0.41, P=<0.001). Psychological distress history

hastened death significantly first year of transplantation (HR, 3.05; 95% CI, 1.45-6.23, P=0.002) although only showed shorten survival trend in respect to overall survival (HR, 1.63; 95% CI, 0.86-3.10, P=0.13).

Conclusions: It is likely that distress before or at the time of the allogeneic HSCT affects overall survival, whereas influence one-year survival significantly patients with hematologic malignancies. However, distress did not show the difference of hospital days, times to engraft, and usage of analgesics until engraft after allogeneic HSCT between case and control subjects.

Keywords: psychological distress, allogeneic stem cell transplantation, survival, quality of life