

中文題目：身體質量指數對於異體造血幹細胞移植發生急性移植物對抗宿主反應與存活率的影響

英文題目：Impact of body mass index on acute graft-versus-host disease and outcome of adult hematopoietic allogeneic stem cell transplantation

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Background

High body mass index (BMI) is well-known associated with chronic inflammation and high risk of infection. The impact of BMI on acute graft-versus-host disease (aGVHD) and outcome of adult hematopoietic allogeneic stem cell transplantation (HSCT) is not well elucidated.

Methods

We retrospectively evaluated 281 adult patients undergoing allogeneic HSCT at Taipei Veterans General Hospital from 2010 to 2017. BMI before transplantation and after engraftment was calculated. Overall survival (OS), disease-free survival (DFS), and GVHD-free, relapse-free survival (GRFS) were analyzed using the Kaplan-Meier method. Logistic regression model was used to examine the association of variables with aGVHD.

Results

In our study, 18 patients (6.4%) with underweight, 134 patients (47.7%) with normal weight, 104 patients (37.0%) with overweight and 25 patients (8.9%) with obesity were noted. Grade III-IV aGVHD was significantly associated with increasing BMI groups ($p = 0.04$). Patients with BMI ≥ 24 had a high cumulative incidence of grade III-IV GVHD (HR 1.66, 95% CI 1.01-2.74). In the multivariate logistic regression model, BMI ≥ 24 was significantly associated with grade III-IV aGVHD (OR: 2.3, 95% CI: 1.30-4.09; $p = 0.004$). BMI reduction $\geq 10\%$ had a negative impact on OS, DFS and GRFS.

Conclusions

Our study demonstrated high pre-transplant BMI was a risk factor for aGVHD in patients receiving allogeneic HSCT. In addition, post-transplant BMI reduction $\geq 10\%$ was associated with poor outcomes after transplantation.