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Paper Poster Session
Clinical epidemiology and host response

Epstein-Barr viral load monitoring after hematopoietic stem cell transplantation: dynamics of reactivation and effect of preemptive rituximab.

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Background: Epstein-Barr virus (EBV) displays oncogenic properties, particularly after hematopoietic stem cell transplantation (HSCT). Therefore, blood EBV viral load (BEBVL) is monitored after HSCT to detect patients at risk of developing EBV-associated post-transplant lymphoproliferative diseases (PTLDs). However, little is known about the dynamics of post-HSCT BEBVL and the threshold requiring anti-CD20 preemptive therapy.

Material/methods: We retrospectively analyzed the post-HSCT BEBVL of all 332 adult HSCT recipients in our center from 2005 to 2013. For each patient, a mean of 9.8 BEBVL was measured during the first post-transplantation 3 months, and a mean of 23.9 during the first year.

Results: BEBVL ≥100, 1,000, 5,000, 10,000, and 50,000 copies/mL was detectable in respectively 77.7%, 69.6%, 37.0%, 27.1%, and 7.5% of the patients after a respective median time of 9, 14, 15, 16, and 14 weeks. Maximum BEBVL was 100–1,000, 1,000–5,000, 5,000–10,000, 10,000–50,000 and ≥50,000 copies/mL in respectively 8.1%, 32.5%, 9.6%, 19.9%, and 7.5% of the patients. BEBVL was more frequently detectable when the donor was EBV-positive, and in cases of graft-versus-host disease, and less frequently detectable when certain particular conditioning regimens were used. No BEBVL threshold was associated with an overall survival difference; however, survival after the first BEBVL ≥1,000 copies/mL was lower in patients who later reached 50,000 copies/mL. Seventy-eight patients received rituximab, with a decrease of BEBVL in most patients. Long-term survival of rituximab-treated patients did not differ, except for patients with BEBVL ≥50,000. Only one case of PTLD was observed.

Conclusions: BEBVL is frequently detectable early and late after HSCT; no strong association with prognosis is suggested.