View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Elsevier - Publisher Connector

hours later. Because avoidance of stem cell exposure to CY occurs only in the 2 step approach, we compared engraftment rates and IR between the 2 groups. All 92 patients had good risk disease. In the 1 step vs the 2 step study, median time to ANC > 500/ul was 19(range 15-28 days) vs 11[range 9-16 days (p=0.000-Mann-Whitney)], and for platelets > 20,000/ul, 29(range 18-52 days) vs 17(range 12-173 days) respectively (ns). The significant difference in time to ANC recovery in the 1 step group was possibly from the exposure of the donor PBSC's to CY. When we accounted for the later occurrence of day 0 in the 2 step group, the median time to ANC recovery was still 3 days longer in the 1 step group even though this group received a higher median CD 34 dose. Possibly due to the earlier count recovery in the 2-step group, the median CD3/4 count at day 28 was 20(range 5-50/ul) in the 1 step group vs 54(range 11-299/ul) in the 2 step group. By day 90, differences between the groups resolved, with a median CD3/4 count of 157(range 29-397/ul) vs 147(range 10-814/ul) in the 1 and 2 step groups respectively. Median CD3/8 count at day 28 was 40 (range 3-157/ul) vs 57 (range 4-2682/ul) and at day 90 was 239(range 12-1439/ul) vs 204(range 2-2379/ul) in the 1 and 2 step groups respectively. The percentages of patients on steroids for GVHD at day 28 (13% in the 1 step group vs 31%) and 90 (18% vs 33%) was not significantly different between the two groups (p=0.215 and 0.413 respectively, Pearson Chi Square). The median length of stay (LOS) was 41(range 15-99 days) vs 32(range 15-156 days) in the 1 and 2 step groups respectively. The 2 step approach to HSCT allows for the administration of a fixed dose of T cells from which to optimize outcomes and circumvents exposure of donor cells to the effects of CY. Our experience with a 1 step approach suggests later ANC recovery and possibly initial T cell recovery versus the 2 step approach. There may be a slightly longer LOS in the 1 step group possibly from longer time to count recovery. Formal analyses of the differences between the two approaches will be performed when more patients are treated at our institution with the 1 step approach.

397

END Organ Disease in the Context of Human Herpes VIRUS 6 Viremia in Pediatric Allogeneic Hematopoietic STEM CELL Transplant Patients: A Case Series

Lena Winestone [1], Rajni Agarwal [2], Jose Montoya [3], Kenneth I. Weinberg [2], Matthew H. Porteus [2], Benjamin Pinsky [3], Elizabeth Soda [3], Jesse Waggoner [3], John Tamaresis [1], Sandhya Kharbanda [2]. [1] Pediatrics, Stanford University, Palo Alto, CA; [2] Pediatric Stem Cell Transplantation, Stanford University, Palo Alto, CA; [3] Stanford University, Palo Alto, CA

Introduction: HHV6 (Human Herpes Virus 6) reactivation occurs in approximately one-half of patients following allogeneic hematopoietic stem cell transplant (HSCT). The target tissues of HHV6 and the extent to which HHV6 causes disease in those with viremia is not resolved.

Methods: Biopsies or body fluid sampling are routinely performed at our center to determine the cause of otherwise unexplained end-organ disease. We describe 14 pediatric HSCT patients who were found with HHV6 PCR end-organ tissue positivity on these studies. Of these 14 patients, 13 had received myeloablative conditioning, 12 had received an unrelated donor graft, 10 had underlying malignant disease, 9 patients had acute GVHD, and 3 were diagnosed with chronic GVHD.

Results: Robust statistical partitioning identified two distinct subgroups within this population based on the highest HHV6 viral load in blood. In 10 of the 14 patients, a peak blood viral load (>28,000 copies/mL) occurred developed while the other 4 patients had peak blood viral loads <2000 copies/ml. All patients received antiviral treatment to treat their viremia. At the time of biopsy and/or fluid sampling, only 1 patient out of 14 had a blood viral load >28,000 copies/mL and the remainder had very low (<1500 copies/ml) or undetectable HHV6 virus in the blood despite having detectable virus in their tissues. In total, 8/14 patients biopsied patients who had tissue/body fluid viral positivity did not have concurrent detectable virus in blood, in 5/14, the blood viral load was <1500 copies/ml, while only in one patient who had encephalitis there was a high copy number of 344,488 copies/ml detected in blood at the time of detection of the virus in the cerebrospinal fluid (CSF).

HHV6 was found in CSF (3 patients), BAL fluid (3 patients), GI tract (5 patients), bone marrow (5 patients), pericardial fluid (3 patients), liver (1 patient), and gallbladder (2 patients). Statistical analysis showed no difference between the two subgroups with respect to age, gender, stem cell graft, stem cell donor, HLA compatibility between the donor and the recipient, acute/chronic graft-versus-host disease, or survival. Of note, 4 out of 14 patients had co-existent CMV viremia. There was a decreasing linear trend (Cochran-Armitage P=0.015) in the association (Fisher's exact P=0.041) between CMV viremia and HHV6 viral load group: 3 patients with CMV viremia were in the low HHV 6 viral load group versus 1 patient in the high group. Five of the fourteen patients died (one of whom relapsed), suggesting a high non-relapse mortality rate (28%) in this population.

Conclusion: End-organ disease/dysfunction with HHV6 positivity can persist despite a decrease in peripheral viral load after antiviral treatment. Further studies will elucidate whether prolonged or intensive antiviral treatment is warranted in such cases.

398

Impact of Adenovirus Viremia in Bone Marrow Transplant Patients, 2010-2013

Steven Wu [1], Nicole Theodoropoulos [2], Stanley I. Martin [2], Leslie A. Andritsos [3], Steven M. Devine [4]. [1] The Ohio State University College of Medicine, Columbus, OH; [2] Division of

Table 1
Patient characteristics comparing cases and controls

	Cases (n=5)	Controls (n=15)	*P* value
Age (Median with range)	43 (21-68)	47 (27-71)	0.646
Male gender	5 (100%)	13 (86.7%)	1.000
Type of transplant			
Allogeneic – Related, Unmatched	0 (0%)	3 (20%)	0.539
Allogeneic – Unrelated, Matched	3 (60%)	2 (13.3%)	0.073
Allogeneic – Unrelated, Unmatched	1 (20%)	7 (46.7%)	0.603
Autologous	1 (20%)	3 (20%)	1.000
Immunosuppressive therapy on day + 14			
Tacrolimus	4 (80%)	11 (73.3%)	1.000
Corticosteroids	0 (0%)	1 (6.7%)	1.000
Mycophenolate	1 (20%)	2 (13.3%)	1.000
GvHD	3 (60%)	2 (13.3%)	0.073
WBC	4.1 (0.2-9)	4.7 (0.8-9.2)	0.668
ANC	3.0 (0.7-5.3)	3.2 (0.1-9.3)	0.882
Hemoglobin	8.7 (6.8-10)	10.7(7.2-14)	0.066
Platelets	70 (7-165)	120 (35-236)	0.147
Cr	1.25 (0.83-1.97)	0.84 (0.38-1.29)	0.081
Alk Phos	85 (36-138)	69 (50-95)	0.243
Total bilirubin	1.2 (0.6-2)	0.6 (0.3-0.9	0.003
ALT	71(10-151)	29 (8-71)	0.026
Albumin	2.6(2.2-3.1)	3.7 (2.7-4.2)	< 0.001