

undertaken to assess whether the MBNW test can be used as an early marker of BO in asymptomatic pts.

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LATE ONSET NON-INFECTIOUS PULMONARY COMPLICATIONS (LONIPC) IN ADULT ALLOGENEIC HEMATOPOEITIC CELL TRANSPLANT (HCT) RECIPIENTS

Solh, M., Cao, Q., Majhail, N.S., Weisdorf, D. University of Minnesota, Minneapolis, MN

LONIPC after allogeneic HCT can contribute to post-transplant morbidity and mortality and decreased quality of life. We reviewed data for LONIPC in 451 consecutive adult patients who received an allogeneic HCT between 2002 and 2007 and survived for ≥ 80 days after HCT. Seventy four patients developed LONIPC at a median of 177 (range, 81-1017) days after HCT; 1-year cumulative incidence of LONIPC was 13% (95% CI, 10%-16%). LONIPC occurred among 21.3% of myeloablative and 12.6% of non-myeloablative HCT recipients. Graft sources were 49% related donor, 45% umbilical cord blood and 51% unrelated donor. Acute GVHD had occurred in 49%. 53% of patients had a prior history of or concomitant chronic GVHD. Four groups of LONIPC were observed: diffuse alveolar hemorrhage (DAH, n = 28), idiopathic pneumonia syndrome (IPS, n = 19), bronchiolitis obliterans (BO, n = 22) and other (n = 5). A greater proportion of patients with LONIPC had received myeloablative conditioning compared to patients who did not develop LONIPC (57% vs 41%, p = 0.01); the two groups were otherwise comparable. Overall survival at 1-year and 3-years after HCT was significantly decreased for recipients with LONIPC compared to those without LONIPC (1 year OS 51% vs. 76%, p < 0.01) and (3 years OS 34% vs 57%, p < 0.01). 45% of recipients with LONIPC survived 6 months after developing lung complication. Among patients with LONIPC, those with DAH and IPS had worse survival at 1-year after HCT compared to patients with BO (36% vs. 37% vs. 77%, p < 0.01). LONIPC in allogeneic HCT recipients consists of a heterogeneous group of diseases with varying clinical course and prognosis. LONIPC is associated with increased mortality among HCT recipients. Further understanding of the pathogenesis of each of these entities is still required.

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NEPHROTIC SYNDROME AFTER ALLOGENEIC HEMATOPOEITIC CELL TRANSPLANTATION: INCIDENCE AND OUTCOMES

Khaled, Y.A.², Choi, S.W.¹, Hanauer, D.A.³, Levine, J.E.¹, Peres, E.¹, Kitko, C.¹, Reddy, P.¹ ¹University of Michigan, Ann Arbor, MI; ²Florida Cancer Institute, Orlando, FL; ³University of Michigan, Ann Arbor, MI

The NIH Consensus recognizes nephrotic syndrome (NS) as part of the chronic GVHD symptomatology, however the incidence and outcomes of this manifestation have not been well-defined. To characterize this complication, we conducted an IRB-approved retrospective review of 626 consecutive patients (age > 16 yrs: [MRD], n = 352; [MUD], n = 274) who underwent allogeneic hematopoietic cell transplantation (HCT) between October 2000 and December 2007 at the University of Michigan. Conditioning regimens included full intensity (FIC) in 470 patients and reduced intensity (RIC) in 156 patients. Nephrotic range proteinuria was identified in 17 patients. Renal biopsy confirmed the diagnosis in seven of these patients. The median time to onset of NS was 7.3 months following HCT. Clinical manifestations included hypoalbuminemia (100%), hypercholesterolemia (82%), edema (76%), renal impairment (65%), and thrombosis (29%). The overall cumulative incidence of NS was 2.9%: 2.4% in FIC and 4.6% in RIC HCT recipients; and 2.3% in MRD and 3.7% MUD HCT recipients. Of note, in patients who received irradiation-based conditioning regimens, there was an increased cumulative incidence of NS compared to those who did not, 4.8% versus 2.1%, respectively.

Diagnostic symptoms of chronic GVHD based upon the NIH Consensus was seen in 11 patients (65%). Prior history of acute GVHD was seen in 11 patients (65%). Interestingly, history of symptomatic cystitis was seen in 9 patients (53%), eight of whom had BK virus detected in the urine. All of the patients received systemic steroids (0.25 mg/kg – 2 mg/kg), with or without mycopheno-

late mofetil and a calcineurin inhibitor. Additional therapy with rituximab was administered in nine patients. Durable remission with no further recurrence of proteinuria was observed in 47% of the patients (n = 8). The median time to response was 4.8 months. Recurrence of proteinuria was seen in 29% of the patients (n = 5), and primary refractory proteinuria was observed in 23% of the patients (n = 4). Overall survival for the cohort was 49.5% at 4 years with median follow up of 5.1 years. The median survival from diagnosis of NS was 2.5 years. As of May 2009, eight patients are alive and nine have died. The causes of death include GVHD (n = 6), relapse (n = 2) and unknown (n = 1). NS is a rare but important complication following allogeneic HCT. Early recognition of the clinical presentations and risk factors may limit the potential morbidity and mortality associated with NS.

Patients characteristic

| Patient | MUD/ MRD | Age at Transplant | DX | Proteinuria estimate (g/24 h) | Gender | GVHD Regimen | Kidney Biopsy |
|---------|----------|-------------------|-----------------|-------------------------------|--------|-----------------------|-------------------|
| 1 | MUD | 53 | MPD | 5.5 | F | Tacro/MTX | Minimal change GN |
| 2 | MUD | 56 | MM | 14 | M | Tacro/MTX | Memberanous GN |
| 3 | MRD | 57 | MDS | 14 | M | Tacro/MTX | Memberanous GN |
| 4 | MUD | 55 | AML | 3.4 | M | Tacro/MTX | N/A |
| 5 | MRD | 30 | NHL | 3.74 | M | Tacro/MTX | Memberanous GN |
| 6 | MRD | 47 | AML | 10 | M | Tacro/MTX | Memberanous GN |
| 7 | MUD | 49 | NHL | 6.9 | M | Tacro/MMF | N/A |
| 8 | MUD | 38 | AML | 8.7 | F | Tacro/MMF | N/A |
| 9 | MUD | 18 | Aplastic Anemia | 4.22 | F | Tacro/MTX | N/A |
| 10 | MRD | 34 | AML | 5.96 | F | Tacro/MTX | N/A |
| 11 | MUD | 61 | MDS | 13.27 | M | Tacro/MTX | N/A |
| 12 | MRD | 26 | CMML | 3.58 | F | Tacro/MMF | N/A |
| 13 | MRD | 63 | NHL | 4.54 | F | Tacro/MMF/MTX | N/A |
| 14 | MUD | 55 | AML | 22.57 | M | Tacro/MTX/ Etanercept | Minimal Change GN |
| 15 | MRD | 59 | NHL | 3.37 | M | Tacro/MMF | N/A |
| 16 | MRD | 62 | AML | 5.47 | F | Tacro/MMF/MTX | Memberanous GN |
| 17 | MUD | 46 | AML | 7.96 | F | Tacro/MTX/ Etanercept | N/A |

MUD = matched unrelated donor; MRD = matched related donor; GN = glomerulonephritis; NA = non applicable; MTX = methotrexate; MMF = mycophenolate mofetil;

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UTILIZATION OF PREVENTIVE CARE SERVICES BY HEMATOPOEITIC CELL TRANSPLANT SURVIVORS

Lee, S.J., Leisenring, W.M., Khera, N., Chow, E.J., Syrjala, K.L., Baker, K.S., Flowers, M.E.D., Martin, P.J. Fred Hutchinson Cancer Research Center, Seattle, WA

Background and Methods: Screening and preventive care guidelines are available for survivors of autologous and allogeneic hematopoietic cell transplantation (HCT). We assessed adherence to these guidelines with a mailed questionnaire sent to all adult survivors in the Fred Hutchinson Cancer Research Center database, and examined factors associated with adherence.

Results: Of 3780 survivors after HCT, 1849 (49%) responded. Median age of respondents at the time of the survey was 55.3 years (18.2-81.2). 53% were male, 90% White, 68% allogeneic recipients, and the median time elapsed since transplant was 8.1 years (0.2-38.1). Younger age, male gender, non-White race, bone marrow transplant, myeloablative conditioning, allogeneic HCT, and HCT in