

Conclusion: Our study shows that patient mobilized with plerixafor and G-CSF have similar immune reconstitution at 30 and 60 days post autologous transplantation compared to patients mobilized with G-CSF alone.

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Retrospective Assessment of the Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT) in Hematopoietic Stem Cell Transplantation (HCT) Recipients

Geoffrey Barkley¹, Hannah E. Spencer², Diana O. Rexrode³, Amer Beitinjaneh², Leonid Volodin², Gina Petroni⁴, Tamila L. Kindwall-Keller². ¹Stem Cell Transplant, University of Virginia, Charlottesville, VA; ²Hematology Oncology, University of Virginia School of Medicine, Charlottesville, VA; ³Stem Cell Transplant Program, University of Virginia, Charlottesville, VA; ⁴Applied Statistics, University of Virginia, Charlottesville, VA

Background: HCT is a lengthy, complex procedure with the potential for decreased quality of life, transplant related mortality, relapsed disease, and graft-versus-host disease. Psychosocial assessments are a part of the overall HCT evaluation process, but there are very few validated psychosocial instruments for this patient population. Recently, the SIPAT has been shown to predict outcomes in solid organ transplantation. A retrospective pilot study was performed on 25 consecutive HCT patients to investigate whether SIPAT results correlated with HCT outcomes.

Methods: The retrospective pilot study was modeled after methodology published in any earlier SIPAT study conducted by JR Maldonado (Psychosomatics, 2012). Two experienced HCT reviewers, a physician and a social worker, and an inexperienced reviewer, a transplant coordinator, conducted the retrospective chart review, completing the SIPAT for 25 consecutive HCT recipients at the University of Virginia between January and October 2012. A clinical research coordinator independently reviewed each patient's medical records and interviewed transplant coordinators to record HCT recipient outcomes.

Results: HCT recipients (median age 52, 56% male) received HCT's for myeloma, lymphoma and leukemia. 14 recipients received an allogeneic transplant, while 11 received an autologous one. The inter-rater reliability between the SIPAT reviewers was inconsistent. 2 reviewers correlated well ($R=.84$), while the other correlations between reviewers were weak ($R=.62$ and $R=.55$). It was noted that there was a response shift in SIPAT reviewer 3 to lower scores, indicating potential bias in reviewers 1 and 2 due to prior patient exposure. To test possible associations of psychosocial assessments with recipient outcomes, individual reviewer SIPAT scores were plotted. These indicated higher assessment scores were associated with poorer social support and compliance, and increased drug relapses, and psychiatric symptoms. Other outcome measures such as graft failure, treatment related mortality, re-hospitalization and disease relapse failed to show a relationship with SIPAT scores.

Conclusion: SIPAT scores may indicate positive relationships between HCT psychosocial assessments and various psychosocial outcomes. Due to the limited number of transplant recipients in the retrospective review, it was not possible to completely blind the experienced

reviewers. Bias may have been introduced resulting in higher scores for these reviewers compared to the third reviewer, who was new to the program. Additionally, the poor inter-rater reliability of the SIPAT (in spite of education and practice) may have arisen from the challenges of scoring patients retrospectively through chart reviews, as the program's psychosocial assessment was not as detailed as the SIPAT. These issues can be addressed in future prospective studies.

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A Population Care Management Approach within a Vertically Integrated, Community-Based, MULTI-Center Health Care System Promotes Quality Hematopoietic STEM CELL Transplant Survivorship Care

Jerry C. Cheng¹, Sharon Desposito², Mary Hurst³. ¹Pediatrics, Southern California Permanente Medical Group, Los Angeles, CA; ²Kaiser Foundation Hospital, Los Angeles, CA; ³Kaiser Permanente, Los Angeles, CA

Background: Through the use of an electronic medical record (EMR) based system, care managers, and single provider physician oversight, we previously reported high concordance rates of post hematopoietic stem cell transplant (HSCT) screening based on ASBMT guidelines in a community based, multi-facility care delivery system.

Objective: To demonstrate that case management in a vertically integrated, EMR based community practice spanning 9 medical centers in a large metropolitan region can consistently promote high concordance rates with published ASBMT guidelines and lead to timely recognition of common transplant associated complications.

Methods: Retrospective chart review of 74 consecutive pediatric HSCT survivors (0-18yrs) from 2005-2013 looking for concordance rates with 2012 ASBMT late effects guidelines. The frequency of thyroid dysfunction, cataracts, pulmonary disease, and ovarian dysfunction were noted as well as the mean time to development. Majority of patients were treated with fractionated TBI and therefore were at high risk of developing late effects.

Results: We observed a sustained high level of concordance (>90%) with screening guidelines in the period after a population care management approach was implemented (2009-2013). This led to the timely identification and management of HSCT associated complications.

Conclusion: An EMR based, vertically integrated health care system facilitates effective community based post-HSCT survivorship care in the pediatric population.

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Symptom Burden, Quality of Life, and Employment Status after Stem Cell Transplantation

Shahrukh Hashmi¹, Eleshia Morrison², Shawna L. Ehlers³, Carrie Bronars⁴, Christi Patten⁵, William Hogan¹, Dennis Gastineau¹. ¹Division of Hematology, Mayo Clinic, Rochester, MN; ²Psychiatry and Psychology, Mayo Clinic, Rochester, MN; ³Mayo Clinic, Rochester, MN; ⁴Psychiatry and Psychology, Mayo Clinic, Rochester, MN; ⁵Mayo Clinic, Rochester, MN

Background: Patients of stem cell transplantation (SCT) may experience long-term symptoms that impact quality of life and adjustment. Employment status has been identified as an important marker for post-transplant adjustment.

Methods: The present study examined the association between fatigue, pain, overall quality of life, and perceived health status with employment at 1-year post-transplant. Participants (N=404) completed a lifestyle survey 1-year post-SCT. Participants provided current employment status and whether change was attributable to their health status.

Results: Participants were predominately married/partnered (81.7%), Caucasian/Non-Hispanic (81.6%), males (52%) between ages 19-76 (mean: 56 years) and majority underwent autologous transplants (70.1%). Prior to illness diagnosis, 60.8% were employed Full-Time, which decreased at the time of transplant (35.5%) and at 1-year post-SCT (31.0%). Employment status was correlated with all variables of interest ($p < 0.05$). Analysis of variance and chi-square analysis were completed. Fatigue, pain, and quality of life were rated on a 0-10 scale. Health status was rated as 'excellent' to 'poor' on a 5-point scale. Patients' mean scores revealed low/moderate fatigue (3.38), low pain (1.87) and good quality of life (7.43). Most rated their health as 'very good' (26.9%) or 'good' (22.7%). Fatigue did not vary by employment status. Pain was greatest for patients unemployed due to health status compared to those employed full-time or unemployed due to other ($p < .05$). Patients employed part-time enjoyed greater quality of life than those unemployed due to Health status ($p < .05$). Those employed full-time were most likely to report 'excellent' (48.0%), 'very good' (37.5%), or 'good' (33.9%) health. 'Fair' health was mostly reported by those unemployed due to health status (41.3%). Retirees, regardless of health status, were most likely to report 'poor' health (57.2%).

Conclusion: Patients' ability and desire to return to work post-transplant should be considered a meaningful component of survivorship expectations and long-term adjustment.

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Factors Associated with Fatigue in Chronic Graft-Versus-Host Disease

Annie Im¹, Sandra Mitchell², Seth Steinberg³, Lauren Curtis⁴, Ann Berger⁵, Kristin Baird⁶, Zoya Kuzmina⁴, Dan Zhang³, Kristen Cole⁴, Daniele Avila⁴, Tiffani Taylor⁴, Judy L. Baruffaldi⁴, Steven Z. Pavletic⁴. ¹Division of Hematology/Oncology, University of Pittsburgh Medical Center, Pittsburgh, PA; ²Outcomes Research Branch, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD; ³Biostatistics and Data Management Section, National Cancer Institute, NIH, Bethesda, MD; ⁴Experimental Transplantation and Immunology Branch, National Cancer

Table 1
Univariate analysis

	Not fatigued (N=160)	Fatigued (N=103)	p
# prior cGVHD therapies	3.5	4.2	0.007
PCS	39.3	29.9	<0.0001
MCS	50.4	42.4	<0.0001
ESR	22.6	28.8	0.007
CRP	6.1	7.7	0.019
TSH	1.8	2.2	0.035
HAP max activity score	74.7	65.4	<0.0001
HAP adj activity score	64.8	50.0	<0.0001
Nutrition score PG-SGA	6.0	9.6	<0.0001

	p
KPS	<0.0001
Walk velocity	<0.0001
PBSC	0.0077

Institute, NIH, Bethesda, MD; ⁵Pain and Palliative Care, National Cancer Institute, NIH, Bethesda, MD; ⁶Pediatric Oncology Branch, National Cancer Institute, NIH, Bethesda, MD

Background: Chronic graft-versus-host disease (cGVHD) is a major cause of morbidity and non-relapse mortality after allogeneic hematopoietic cell transplantation (HCT). Although fatigue is common after HCT, little is known about fatigue in patients with cGVHD. The aim of this study was to explore factors associated with fatigue in cGVHD.

Methods: Data were drawn from a cohort of adults with cGVHD (n=263). To classify patients as fatigued, a single item (extent to which respondent was bothered in the past month by loss of energy [LOE]) from the Lee cGVHD Symptom Scale was employed. Those who were 'not at all', 'slightly', or 'moderately' bothered by LOE were classified as not fatigued; those who were 'quite a bit' or 'extremely' bothered were classified as fatigued. Nonparametric tests were used to compare variables of interest in patients with and without fatigue; logistic regression was used to model predictors of fatigue.

Results: In univariate analysis, several parameters were significantly associated ($p < 0.005$) or demonstrated a trend towards significant association ($0.005 \leq p < 0.05$) with fatigue (Table 1). Factors not associated were NIH global severity score, NIH organ scores, # of involved organs, time since cGVHD onset, platelets, hemoglobin, albumin, erythematous or sclerotic skin involvement, intensity of immunosuppression, therapeutic intent at time of evaluation, age, gender, BMI, conditioning regimen, donor source, C3, C4, pre-albumin, ferritin, lung function score, FEV1, respiratory symptoms, range of motion, and grip strength. Logistic regression modeling initially including factors associated with fatigue in univariate analysis demonstrated that having received peripheral blood stem cells (PBSC) and having impairments in self-rated physical and mental health predicted fatigue. Fatigued respondents had SF36 physical component score (PCS) and mental component score (MCS) means that were markedly lower than US normative value, and human activity profile (HAP) scores reflecting limitation in daily activities.

Conclusions: The absence of association with either NIH cGVHD global severity or organ scores suggests that fatigue in cGVHD patients may have a distinct pathogenesis. The association with ESR and CRP point towards possible inflammatory mediators. Findings confirm the deleterious impact of fatigue on self-rated health and daily activities, and emphasize the need for routine screening in HCT survivors. Further study of the characteristics, correlates, and consequences of fatigue in cGVHD is warranted.

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Providing Care to a Hematopoietic CELL Transplant Recipient: Caregivers Describe Their Own Quality of Life

Heather Jim¹, Gwendolyn Quinn², Anna Barata^{1,3}, Mallory Cases², Julie Cessna⁴, Alexandra Flynn²,