perception of issues from transplant centers since the full implementation of the ACA in early 2014. In terms of Medicaid problems, the survey found that transplant centers have considerable issues with Medicaid reimbursement rates (45%), prior authorization issues (46%), benefit restrictions (38%) and coverage for specific clinical indications (32%). Transplant centers issues with Medicare centered on coverage for certain indications (71%) with some concern for the current Medicare reimbursement rate (30%). Commercial payers were rated by transplant centers to have minor (32%) or some issues (43%) when it comes to the scope of overall issues transplant centers face. Respondents gave qualitative responses about how the ACA is impacting their transplant center and patient populations. While a few respondents provided positive anecdotes about expanded patient access to care through the ACA, many respondents discussed network inclusion issues, problems with home health care, benefit confusion and sincere concerns with pharmaceutical benefit restrictions. The survey results will direct the efforts of the NMDP's Payer Policy team and help to inform the transplant community about common payer challenges.

531

The Implementation of a Quality Management System (QMS) According to FACT-Jacie Standards Improves the Safety Level in the Collection, Processing and Clinical Departments of the Bone Marrow Transplantation Program

Damianos Sotiropoulos¹, Asimina Bouinta², George Karavalakis², Savvas Gounopoulos², Vladimiros Stafylidis³, Athanasia Dontsiou³, Ioanna Sakellari¹,

Vladimiros Stafylidis³, Athanasia Dontsiou³, Ioanna Sakellari¹, Achilles Anagnostopoulos¹. ¹ Hematology Department and BMT Unit, George Papanicolaou Hospital, Thessaloniki, Greece; ² BMT Unit, George Papanicolaou Hospital, Thessaloniki, Greece; ³ George Papanicolaou Hospital, Thessaloniki, Greece

The establishment of a Quality Management System (QMS) according to FACT – JACIE standards in a BMT center is a very laborious project. Involvement of all personnel implicated in collection, processing and clinical procedures is absolutely necessary. Involvement includes strategic scheduling of QMS development, writing of SOPs and documents, and implementation of the system. Deviations from the system as errors, accidents and adverse reactions are very important to be reported in a way to make corrections and improvement in the system.

In our BMT center the duration of the task from the beginning to the application for JACIE accreditation was four years. A team of QM specialists was hired to work for the common project. Doctors, nurses, technicians and the QM specialists attended JACIE courses for center preparation. Writing of SOPs and documents was shared between the different departments. The QMS was implemented for the first time in June 2012. Audit of JACIE inspectors was performed in March 2013 and the center was fully accredited in October 2013.

During this task the personnel of the center acquired a lot of experience regarding SOP management especially in the field of deviations from the system. Errors, accidents and adverse reactions were completely reported and internal audits were for this purpose. Following the incidences in the three different phases: 1) organizing the QMS, 2) implementation – JACIE inspection and 3) post-inspection we realized that the number of deviations reported was completely different. There was an increase in the number of deviations reported during the second phase starting at the implementation and getting a peak during JACIE inspection. There was a 3fold increase compared to phase 1. During the 3rdphase the number of deviations reported has decrease and it is in a 2fold lower level compared to the peak phase 2. Internal audits and inspections have documented that this is due to corrections and improvements of the system and the behavior of the personnel and not due to relaxing which is an achievement for our center.

In conclusion recording and dealing with adverse events as well as reducing the actual number of deviations, as a result of the better training and programming, could be a major factor that improves the safety level.

532

Hematopoietic Cell Transplantation Multidisciplinary Care Teams: Burnout, Moral Distress and Career Satisfaction

Sanya Virani¹, Alexandra De Kesel Lofthus², Deborah A. Boyle³, Elaine Stenstrup⁴, Ellen M. Denzen⁵, Jane Dabney ⁶, Kimberly Schmit-Pokorny ⁷, Leslie Parran⁸, Lih-Wen Mau⁹, Linda J. Burns¹⁰, Marion Kalbacker¹¹, Miguel-Angel Perales¹², Nancy Boyle¹³, Navneet S. Majhail¹⁴, Pamela Paplham¹⁵, Tait Shanafelt¹⁶, Tippu Khan¹⁷, William Wood¹⁸, Elizabeth A. Murphy⁵, Joyce Neumann¹⁹. ¹ Patient and Health Professional Services, National Marrow Donor Program, Minneapolis, MN; ² Case Management, National Marrow Donor Program, Minneapolis, MN; ³Oncology, UC Irvine Medical Center, Orange, CA; ⁴University of Minnesota Cancer Care, Minneapolis, MN; ⁵ Patient and Health Professional Services, National Marrow Donor Program /Be The Match, Minneapolis, MN; ⁶Adult BMT Program Social Worker, The Cleveland Clinic Foundation, Cleveland, OH; ⁷Blood and Marrow Transplantation Program, University of Nebraska Medical Center, Omaha, NE; ⁸ BMT, University of Minnesota Medical Center, Minneapolis, MN; ⁹National Marrow Donor Program-Be The Match, Minneapolis, MN; ¹⁰ University of Minnesota Medical Center, Minneapolis, MN; ¹¹ Clinical Social Worker - Pediatric BMT. Duke University Medical Center, Durham, NC; ¹² Department of Medicine. Adult Bone Marrow Transplant Service, Memorial Sloan Kettering Cancer Center, New York, NY; ¹³ Knight Cancer Institute, Oregon Health & Science University, Portland, OR; ¹⁴ Blood & Marrow Transplant Program, Cleveland Clinic, Cleveland, OH; ¹⁵ Roswell Park Cancer Institute, Buffalo, NY; ¹⁶ Division of Hematology, Mayo Clinic, Rochester, MN; ¹⁷ Department of Pharmacy, University of North Carolina, Chapel Hill, NC; ¹⁸ Hematology/ Oncology, University of North Carolina Healthcare, Chapel Hill, NC; ¹⁹ Stem Cell Transplantation and Cellular Therapy, University of Texas MDAnderson Cancer Center, Houston, TX

Through the multi-year System Capacity Initiative and in collaboration with hematopoietic cell transplant (HCT) experts and key stakeholders, National Marrow Donor Program[®]/Be The Match[®] evaluated the impact of workforce and infrastructure challenges on the utilization of HCT. A key finding from the needs assessments (Majhail et al. *BBMT*, 2012; Denzen, et al. *BBMT*, 2013) was that the effectiveness of recruitment and retention efforts is limited by work-related distress (e.g., burnout, moral distress, and compassion fatigue) across the HCT workforce. Although a recent evaluation by Shanafelt et al. (*JCO*, 2014) identified a burnout rate of 44.7% in almost 3000



Figure 1. IICT Multidisciplinary Care Teams Survey domains

oncologists, there has been no comprehensive assessment of the prevalence and etiology of burnout within HCT to date. We hypothesize that the issues of burnout, moral distress and compassion fatigue are prevalent among HCT health professionals. Second, we hypothesize that lower level functioning in these areas, along with poor work-life balance, correlate with career dissatisfaction in HCT professionals. To test this, we will conduct a cross-sectional, web-based survey focused on five measurement domains and utilizing two validated scales: Maslach Burnout Inventory and Moral Distress Scale-Revised (Figure 1). Participants will be recruited from special interest groups within professional societies/associations representing five HCT disciplines: nurses, nurse practitioners/physician assistants, pharmacists, physicians and social workers. With a target sample size of 6,000, this will be the first comprehensive, prospective study of the HCT multidisciplinary care team. Results describing the prevalence of work-related distress and its association with career satisfaction, controlling for demographic and work-environment characteristics, will be presented and used to design future interventions.

PHARMACY

533

Posterior Reversible Encephalopathy Syndrome Associated with Cyclosporine Use in a Child Undergoing Allogeneic Hematopoietic Stem Cells Transplantation for Fanconi Anemia: A Case Report

Mohamed S. Ali¹, Sameera Al-Afghani². ¹Hematology/BMT, King Fahad Specialist Hospital - Dammam, Dammam, Saudi Arabia; ² King Fahad Specialist Hospital - Dammam, Dammam, Saudi Arabia

Posterior reversible encephalopathy syndrome (PRES) is a neuroclinical and radiological syndrome that commonly consists of parietooccipital and posterior frontal cortical and subcortical edema. The neurologic manifestations are variable, but frequently include headache, altered mental status, visual disturbances and seizures. Known associated causative agents include calcineurin inhibitor immunosuppressives such as tacrolimus and cyclosporine.

We herein report a case of 12 years old boy that was diagnosed with fanconi anemia and underwent allogeneic Hematopoietic Stem Cells Transplantation (HSCT) with fludarabine (35 mg/m²/day x5), cyclophosphamide (10 mg/ $m^2/day x4$) and anti-thymocyte globulin (Rabbit ATG) (2.5) mg/kg/day x4). GVHD prophylaxis included cyclosporine (65 mg/m²/dose BID) starting day -3 and mycophenolate mofetil $600 \text{ mg/m}^2/\text{dose BID}$) starting on day 0. Pre stem cells infusion course was complicated with ICU admission due to ATG anaphylaxis reaction. Post stem cells infusion, the patient had elevated blood pressure and experienced seizure. MRI brain confirmed PRES. Cyclosporine was discontinued. Patient was put on methylprednisolone 2 mg/kg for GVHD prophylaxis. The patient did not experience any seizure afterwards. PRES resolved based on follow up imaging. The patient was started on tacrolimus with no further PRES episodes.

Although it is a rare complication, it can be concluded that PRES should be suspected with neurological symptoms in children undergoing HSCT and taking a calcineurin inhibitor. If confirmed by imaging, rigorous control of arterial blood pressure and discontinuation of the offending agent is recommended. We also conclude that it's safe to rechallenge the