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**

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

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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 x 5), cyclophosphamide (10 mg/m²/day x 4) and anti-thymocyte globulin (Rabbit ATG) (2.5 mg/kg/day x 4). GVHD prophylaxis included cyclosporine (65 mg/m²/dose BID) starting day -3 and mycophenolate mofetil (600 mg/m²/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. 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
patient with a different calcineurin inhibitor once the PRES resolves.

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Utility of Corticosteroids As Adjunct Therapy for Respiratory Syncytial Virus Infection in Allogeneic Stem Cell Transplant Recipients

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Background: Respiratory syncytial virus (RSV) infection causes significant morbidity and mortality in allogeneic stem cell transplant (HCT) recipients. Although ribavirin and immunoglobulin are key components of therapy, the role of adjunct corticosteroids is not established. Corticosteroids may mitigate adverse pulmonary sequelae of RSV infection, although they may also delay viral clearance, and corticosteroid use has been included as a negative factor in recent risk predictors of RSV mortality (RSV ISI-Blood 2014).

Objectives: We sought to evaluate corticosteroid utilization in the setting of post-HCT RSV infection in our center and assess the association of corticosteroid use with morbidity and mortality.

Methods: Patients with a history of RSV infection, seen at Mayo Clinic Rochester from 2008 to 2014, were identified. Treatment and outcome data were retrospectively collected. Forced expiratory volume in one second (FEV1) and carbon monoxide diffusion capacity (DLCO) were collected pre- and post-RSV. Fisher’s exact test was used to compare categorical variables.

Results: Details of therapy were extractable for 45 patients. Twenty-one (47%) were on corticosteroids prior to RSV diagnosis for treatment of graft versus host disease (GVHD). Eleven (24%) of these patients had their steroid dose increased by a median of 20 mg prednisone equivalents (PE). An additional 8 (18%) patients were started on corticosteroids with median dosing of 62 mg PE. There was no difference in objective indices of RSV severity (RSV ISI) or baseline prevalence of bronchiolitis obliterans (BO) between those who did or did not receive corticosteroids. Dosing ranged from 20 to 1250 mg/day PE. Most patients were started on corticosteroids within 24 hours of RSV diagnosis and median duration of use was 31 days. There was no difference in post-RSV FEV1 (p=0.4578) or DLCO (p=0.4578) decline between patients receiving corticosteroids and those who did not.

Conclusion: Adjunct corticosteroid use in the setting of RSV infection appeared to be related to physician assessment of disease acuity rather than objective indices of severity. Corticosteroids did not have any discernable effect on RSV-related outcomes. The high ICU admission rate and need for long-term BO therapy highlights the urgent need for better RSV directed therapies.

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Stability of High Concentration Etoposide (10mg/mL) in Physiologic Saline for Use in Conditioning Regimens

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Background: High-dose etoposide (60 mg/kg) is used in conditioning regimens for allogeneic stem cell transplantation. As solubilizing excipients are present in commercially available non-aqueous formulations (20 mg/mL), dilution is needed before administration. Licensed final concentration ranges are 0.2-0.4 mg/mL, while crystallization is likely to occur with concentrations higher than 0.4 mg/mL. Consequently, high-dose etoposide regimens require huge quantities of dilution fluids. So far, most centres use a concentration of 1 mg/mL with limited stability of only one hour which means a practical hurdle for pharmacists, nurses and patients.

Aim: To define stability of etoposide (Sandoz) at a concentration of 10.0mg/mL for 48h (5°C) followed by 8h (25°C) (n-3), at 25°C for 24h.

Methodology and Results: Aspect was performed by visual examination and the analytical assay by high performance liquid chromatography according to the USP monograph. Samples were stored for 48h at 5°C with sampling testing after 24h and 48h. Samples were consecutively stored for an additional 8h at 25°C (relative humidity of 60%) with sampling and testing at the end of this extra storage period. Sample dilutions stored at 25°C/60% RH for 24h were sampled and tested after 24h.

Visual aspects revealed a clear, colorless solution at all test points for all dilutions. Evolution of the mean assay of samples with regard to initial concentration at time zero (t=0) revealed for t=24h, 5°C–101.9%; t=48h, 5°C–101.3%; t=8h,5°C + 8h,25°C–101.4%. For the samples stored for 24h at 25°C, a value of 104.2% was obtained.

Conclusion: Etoposide solutions of 10.0 mg/mL in NaCl 0.9% are stable when stored for 48h at 5°C followed by storage for 8h at 25°C, and for 24h at 25°C. Its use might be an added-value for pharmacists, nurses and patients during high-dose etoposide conditioning regimens. Monitoring for hypotension and strict control of the administration rate (below 10mg/kg/h) during infusion remains necessary.

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Pharmaceutical Care for Pediatric Oncology and Hematopoietic Stem Cell Transplantation Patients: Need for Education and Training

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Background: In recent years, hematopoietic stem cell transplantation (HSCT) has emerged in pediatrics. Community pharmacists (CP) are involved in the pharmacological follow-up of these patients. This study aimed to explore the