

and procedural coping skills. To minimize related donor distress, a multidisciplinary team worked to develop a "Donor Recognition Program" which includes acknowledgement, education, counseling, and support. All donors will receive a specially designed T-shirt. Minor donors will undergo pre- and post-procedure counseling, and will have a needs assessment at 2, 4, 6, and 12 months post-donation to determine issues and facilitate adjustment related to donation and recipient outcome. Baseline and 1 year post donation measures of behavior, anxiety, and esteem for minor participants will be compared to evaluate the program. For adults, a donor questionnaire will be developed, tested, refined and distributed to related donors at the time of donation, two weeks after donation and two months after the patient is transplanted. The results of this questionnaire will be used to evaluate the need for creating additional adult donor services and/or to refine practices and processes at this institution.

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#### HEART SUCCESS WITH BLOOD & MARROW TRANSPLANT PATIENTS: A MULTIDISCIPLINARY APPROACH FOR CONGESTIVE HEART FAILURE PATIENTS

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By 2010 it is estimated that the American population aged 65 and older will increase to over 40 million individuals. This increase is already evident in our Blood and Marrow transplant population with an older population being transplanted with increased survival rates post transplant. Increased age translates into co-morbid conditions that contribute to a significant proportion of morbidity and mortality. One example of this includes cardiovascular conditions that patients bring with them at an increasing rate as they advance in age. The average rates of cardiovascular events rise from 7 per 1,000 men ages 35-44 to 68 per 1,000 men ages 85-94 with narrowing gaps with advancing age and comparable rates occur 10 years later in life for women.

Congestive heart failure (CHF) is one of those cardiovascular co-morbid conditions that this patient population continues to bring into the transplant setting or is developed as a result of treatment. CHF affects 1.5-2% of the population and increases 6-10% in people greater than 65 years of age. In 2005, more than 400 patients were hospitalized at the comprehensive cancer center with a discharge diagnosis of CHF totaling a cost of 36 million dollars. Cancer patients with heart failure can have improved clinical outcomes.

To improve clinical outcomes of these patients, we have teamed together with cardiology and have implemented a Heart Success Program on the 52-bed inpatient unit. The program entails education of the staff and patients about the symptoms of CHF, the importance of daily weights, medications, walking, energy conservation, and nutrition. The program is a multidisciplinary approach including Pharmacy, APN's, Nursing, Rehabilitation services, Social Work, Case Management, and Nutrition. The goals for the staff utilizing the heart success program include increasing the nurses' awareness of the pathophysiology and pharmacology of CHF, being more proactive in its recognition, and identifying patients eligible for the program. The overall goals are to have a reduction in hospital admissions for heart failure exacerbation, decrease the length of stay and healthcare dollars spent. Weekly rounds are conducted with Cardiology and the multidisciplinary team to review the CHF patients and their treatment. In addition, a monthly meeting is held with Heart Success members to look at the data from these patients to evaluate treatment outcomes. A case will be presented.

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#### NURSING CARE OF THE CHILD RECEIVING INHALED RIBAVIRIN FOR THE TREATMENT OF RSV IN THE PERITRANSPLANT PERIOD

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Children status post blood and marrow transplantation have poor immune function putting them at high risk for serious viral

infections of the respiratory tract. RSV, Parainfluenza and Adenovirus can cause serious infections in these patients. First line therapy generally includes IVIG and supportive care. Synagis can be used to prevent RSV if the potential for exposure is known in advance of the infection. Ribavirin is an antiviral agent that can be used in the post BMT patient who contracts RSV. There is some data to suggest Ribavirin also has activity against Parainfluenza types 1, 2 and 3, and Adenovirus. The criteria for administration of inhaled Ribavirin are persistent infection despite appropriate treatment and if there is evidence of lower respiratory infection manifested by pulmonary infiltrates, oxygen requirements or respiratory distress. Special precautions must be taken when caring for a child receiving Ribavirin via inhalation. Of special concern is the risk of exposure to the family and caregiver. Inhaled Ribavirin is often poorly tolerated and the administration of this therapy requires careful planning. The purpose of this abstract is to describe the indications and side effects of inhaled Ribavirin. The nursing care associated with patients receiving inhaled Ribavirin will also be presented. Specific goals will be to describe the administration techniques and safety precautions that must be taken by caregivers and staff.

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#### USE OF N-ACETYL-CYSTEINE FOR HEPATIC VENO-OCCLUSIVE DISEASE PROPHYLAXIS IN PEDIATRIC HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS

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**Background:** Veno-occlusive disease (VOD) of the liver is one of the early complications following hematopoietic stem cell transplantation (HSCT) due to liver damage caused by pre-transplant chemotherapy and/or total body radiation. The incidence of VOD in the pediatric HSCT population is approximately 25% with 80% of those having mild to moderate disease only requiring supportive measures and 20% developing severe disease. The mortality rate is as high as 50% for those who develop severe VOD. In a study conducted at UCSF Children's Hospital from March 2002 through June 2005, 12% of patients who received myeloablative conditioning regimens developed VOD. Of those, 62% had mild/moderate disease, 38% had severe, and 3% died from VOD. The Pediatric Bone Marrow Transplant (PBMT) Program at UCSF Children's Hospital has experience using fibrinolytic agents and/or an anticoagulant for treatment of severe VOD to target the clotting phenomenon. However, prophylaxis for VOD is still questionable and not well studied. N-Acetylcysteine (NAC) is currently approved for use as a mucolytic agent in certain pulmonary disorders and as an antidote for acetaminophen overdose. Evidence thus far has shown its potential benefits in preventing VOD in patients undergoing HSCT without affecting the desired effects of conditioning regimens.

**Methods:** Using the group from our initial study of VOD as our control, we conducted a retrospective review of 17 patients who received NAC between 2005-2006. Both groups were treated with similar myeloablative conditioning regimens. We compared the incidence of VOD in the two groups. For the NAC group, NAC 100 mg/kg/dose was given IV over 2 hours on day of admission, Day +1 and Day +2 post-transplant (a fourth dose was given to patients who received Busulfan/Cyclophosphamide combination therapy).

**Results:** Results to be presented at the 2007 BMT Tandem Meetings.

**Conclusion:** The use of NAC in the pediatric HSCT population is a novel approach to preventing severe VOD, but requires prospective studies to be conducted. Administration of NAC during the pre and post transplant period increases nurse education and awareness to the risks of VOD and gives them the opportunity to participate in research that may improve their patients' transplant outcomes.