

JE vaccine (SA 14-14-2) has lesser local reaction and milder systemic side effects compared to inactivated JE vaccine. Since antibody (Ab) titers to vaccine-preventable diseases decline after hematopoietic stem cell transplantation (HSCT), therefore reimmunization recommendations have been developed for post HSCT survivors. However, there has been no recommendation for revaccination of JE vaccine in post HSCT recipients. This study aimed to measure the immunogenic response to the live-attenuated JE vaccine (SA 14-14-2) in post HSCT recipients. We enrolled patients who underwent allogeneic HSCT at least 2 years, discontinued immunosuppressive agents at least 6 months, and had no evidence of chronic GVHD. The live-attenuated JE vaccine (SA 14-14-2) was administered to the patients. JE neutralizing Ab titers were measured before JE vaccination, then at 1st, 3rd, 6th, and 12th months after vaccination by a plaque reduction neutralizing test. Patients with Ab titer less than 10 at 3rd month received a second injection at 6th month. Then, the JE titers were tested at 7th, 9th, 12th, and 18th months. Side effects of the JE vaccine were recorded by vaccine card supplied to parents or guardians. A total of 28 patients (M:F = 11:17) with a median age of 13 years (4-21 years) participated in the study. The median time from HSCT was 4.13 years (2.1-9.8 years). The underlying diseases were thalassemia (50%) and hematologic malignancies (50%). Ten patients (36%) had Ab in the preventive range before vaccination (group 1). Nine of 18 patients (50%) seroconverted at 3rd month after single JE vaccination (group 2) but only 3 of them had sustained protective Ab levels at 12th month. Nine patients remained absence of JE Ab after the 1st injection (group 3). Seven of these 9 patients (78%) seroconverted at 3rd month after 2nd JE vaccine injection which all of them could sustain the protective Ab levels at 12th month. There was no difference of lymphocyte subset (CD4, 8, 16/56, and 19) between these 3 groups. There was no incidence of systemic reaction reported in this cohort. In conclusion, post HSCT survivors had low seroconversion rate after single dose of the live-attenuated JE vaccine (SA 14-14-2). Post HSCT survivors living in or traveling to the JE endemic countries may require at least 2 doses of the JE vaccine to ensure the protective Ab level.

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A Multi-Disciplinary Approach to Identification and Treatment of Hyperglycemia on an Inpatient Hematopoietic Stem Cell Transplant (HSCT) Unit

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Background/Problem: The incidence of hyperglycemia during and after HSCT has been shown to increase length of stay as well as the risk of neutropenic infections during transplantation. Severe hyperglycemia has been shown to predict the incidence acute graft-versus-host disease. There is a paucity of literature regarding implementation of a systematic screening and intervention program within HSCT programs to proactively address hyperglycemic events and minimize the potential effects of untreated hyperglycemia.

Intervention: A multi-disciplinary "Hyperglycemia Team" reviewed the literature and implemented a comprehensive screening and intervention program. A hyperglycemic protocol was implemented on the HSCT units in 2012. All patients with at least one serum or capillary blood glucose (BG) greater

than 200 mg/dL in the previous 24 hour period were identified via computer-generated reports each morning. A Certified Diabetes Educator (CDE) then screened each patient's medical record to assess whether the patient was receiving insulin therapy to treat hyperglycemia. If the patient was not receiving insulin therapy or the therapy was inadequate, the CDE would contact the primary HSCT providers to facilitate implementation or escalation of a hyperglycemic protocol and/or an endocrinology team consultation.

Results: All serum and capillary blood glucoses performed on the inpatient stem cell transplant units were analyzed for 12 months prior to (n=14780) and subsequent to (n=15138) our intervention. The incidence of BG levels > 180 mg/dL significantly decreased by 16% (p=<.0001) while the incidence of hypoglycemic events (BG levels < 60 mg/dL) requiring medical intervention significantly decreased by 42% (p=<.0001) (Figure A). The number of blood glucose levels at the target goal of 100-180 mg/dL significantly increased by 7.8% (p=<.0001).

Conclusion: A multi-disciplinary approach to the identification and treatment of hyperglycemia is essential to decrease the incidence of hyperglycemia. We concurrently achieved a significant decrease in BG levels and the incidence of hypoglycemic events requiring medical intervention.

Serum/Capillary Blood Glucose Levels on HSCT Units-Figure A

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The Effect of Communication Skills Training on Nurses' Confidence and Competence in Providing Psychosocial Support to Patients and Families

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Background: Many bone marrow transplant (BMT) patients and families report clinically significant levels of psychological distress prior to the start of treatment and afterward. Nurses generally feel confident in providing care for the physical needs of patients, but often find it more difficult to address patients' emotional concerns and report a lack of skill in this area. Supportive and patient-centered communication is an important part of nursing practice, especially with patients who are experiencing emotional and psychological distress, and disruption to social, occupational, and physical lifestyle. To address this issue, the clinical question, "Among direct care nurses, does communication skills training compared to no communication skills training, affect nurses' confidence and competence in providing psychosocial support to patients and families?" was developed. The ACE Star Model of Evidence-Based Practice Change: Knowledge Transformation (Stevens, 2012) was used for this project. A literature search was conducted. Eight articles were critically appraised and a moderate grade was assigned. Communication skills training has been shown to be effective at increasing nurses' ability to provide psychosocial support to patients, confidence in providing psychosocial support, confidence in handling conflicts and criticism, competency in communicating, and communication-related self-efficacy. Nurses also attended to the psychological and social needs of patients more effectively and reported that the skills translated well into the workplace.

Implementation: Communication skills training will be added to the Therapeutic Collaborative training for BMT nurses in the spring of 2014. This training aims to assist nurses in forming therapeutic relationships with their patients and families, addressing professional boundaries, the