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### VANCOMYCIN RESISTANT ENTEROCOCCUS (VRE) BLOODSTREAM INFECTIONS (BSI) IN PATIENTS WITH MALIGNANT HEMATOLOGICAL DISORDERS: IS THE SICK GETTING SICKER?

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Patients with hematologic malignancies and hematopoietic stem cell transplant (HSCT) recipients are at high risk for bacterial BSI. Data describing the prognosis and outcomes of VRE BSI in this patient population is limited. We performed a retrospective chart review of all cases of VRE BSI occurring between February 1996 and December 2002 on the Leukemia/HSCT unit at Barnes-Jewish Hospital. Sixty-eight episodes of VRE BSI were observed in 60 patients with acute (53%) or chronic (8%) leukemia, NHL (22%), or other malignant hematologic disorders (17%). Thirteen percent, 32%, and 32% were recipients of autologous, related, and VUD transplant, respectively. Forty days prior to the VRE BSI, 70% were colonized with VRE, 95% had broad-spectrum antibiotic exposure and 42% had non-VRE BSI, 35% pneumonia, 22% CMV reactivation, 10% fungal infection. At the time of the VRE BSI, 42% of allograft recipients had active acute GVHD and 32% chronic GVHD. Only 57% were neutropenic, 52% had refractory/relapsed malignancy, and 60% had end organ dysfunction with a median APACHE II score of 17. VRE was easily eradicated from the bloodstream after initiation of anti-VRE therapy (median time to clearance 1 (range 1–9) days). Three patients died within 48 hours of the VRE BSI from causes unrelated to the BSI. Median survival after VRE BSI was 19 days. Only 4 deaths were directly attributable to the VRE BSI. Age, ECOG PS $\geq 2$ on admission, HSCT, pneumonia, mechanical ventilation, acute neurologic dysfunction, receipt of anti-fungal drugs, and low APACHE II score were significant factors associated with death by univariate analysis, while pneumonia, receipt of anti-fungal drugs, and low APACHE II score at the time of the VRE BSI remained significant after multivariate analysis. In summary, our analysis suggests that in patients with hematological malignancies, VRE does not have the microbiologic behavior of a virulent pathogen and that VRE BSI may simply be a marker of these patients's already existing critical medical condition.

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### IMPACT OF NEUTRALIZING ANTIBODY TO RESPIRATORY SYNCYTIAL VIRUS (RSV) ON RESPIRATORY DISEASE PROGRESSION IN HEMATOPOIETIC STEM CELL TRANSPLANT RECIPIENTS (HCT)

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RSV-specific antibody is important in preventing severe RSV disease in young children when given prophylactically, but the importance of RSV-specific antibody (Ab) in preventing progression of RSV disease during HCT is not known. We prospectively collected serum in HCT recipients and their donors pre- and in recipients during transplant (Tx). Symptomatic patients were evaluated with nasal wash if symptoms of upper tract respiratory tract infection (URI) were noted; patients with evidence of respiratory distress, oxygen requirement, or radiographic changes, and detection of RSV in the lower airways were determined to have lower respiratory tract infection (LRI). RSV-specific neutralizing Ab was retrospectively measured using standard microneutralization assays. Sixty-two HCT recipients diagnosed with RSV infection were evaluated; 25 (40%) had RSV diagnosed within the first 30 days postTx. Subsequently, 39 patients (67%) had URI disease which progressed to lower respiratory tract infection (LRI). Progression occurred in 13/25 (48%) of patients diagnosed at $\leq$30 days postTx compared with 11/37 (30%) of those with RSV at $>$30 days postTx. Ab levels obtained in HCT two weeks prior to the time RSV infection was diagnosed did not appear to protect patients from more serious RSV disease: mean $\log_2$ antibody level two weeks prior to diagnosis was 10.2 for patients who developed RSV-related URI compared with levels of 9.7 in patients who progressed to LRI ($P = .10$). Controlling for lymphopenia, higher Ab levels in donors also did not appear to protect from the development of LRI in Tx recipients. However, Ab levels in HCT recipients after $>$30 days postTX did appear to prevent RSV disease progression: the mean $\log_2$ Ab levels in 27 HCT recipients with RSV after $>$30 days postTx was 10.5 (95% CI, 9.3–11.4) in URI patients vs 9.3 (95% CI, 8.6–10.6) in LRI patients, $P = .04$. These results suggest that RSV-specific neutralizing Ab may contribute to the prevention of RSV disease progression in HCT recipients later postTX.

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### LONGITUDINAL ASSESSMENT OF QUALITY OF LIFE AND SYMPTOMS OF ETHNICALLY DIVERSE BLOOD AND MARROW TRANSPLANTATION PATIENTS

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Studies that have examined the effects of BMT on quality of life (QOL) have found a significant reduction in QOL and persistent symptoms of fatigue, insomnia, anorexia, and nausea in the first year after BMT (Kopp, Schweigkofler, Holzner, et al 1998, Winer, Lindley, Hardee, et al 1999, Hann, Jacobsen, Martin, et al 1997). The long-term impact of BMT on quality of life has also been examined (Andrykowski, Carpenter, et al 1997, Andrykowski, Brady, et al 1995 and Andrykowski, Bishop, Hahn, Cella, et al, 2005). None of these studies examined differences of quality of life and symptoms among ethnically diverse patients. In our recently completed National Institute of Health sponsored study, the correlation of quality of life and symptoms was evaluated at multiple time points over the course of 100 days in 164 patients, including African-Americans (n = 24), Hispanics (n = 38) and non-minority (n = 102) patients. Data collected included the Functional Assessment of Cancer Therapy (FACT-BMT) measuring quality of life and MD Anderson Symptom Inventory (MDASI) assessing symptoms and symptom interference with life. Other variables examined included disease, type of transplant, age, graft-versus-host disease (GVHD) and survival. Preliminary results indicate that patients receiving myeloablative regimen experienced severe symptoms such as fatigue ($P < .02$) and pain ($P < .03$) and poorer quality of life ($P < .01$) across time. Symptom severity correlated (r = .59 to −.75) with quality of life across time. In addition, there were no significant differences in symptom severity, symptom interference and ECOG performance status among the 3 ethnic groups over time. There were significant differences in symptom severity, symptom interference, and ECOG performance across time comparing minority and non-minority BMT patients. This project, Symptom Management in Blood and Marrow Transplantation, was funded by grant no.1 RO1 NR05188-01A2, funded by National Institutes of Health, National Institute of Nursing Research, to Principal Investigator Marlene Zichi Cohen.

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### LONG TERM SUPPRESSIVE ACYCLOVIR (ACV) REDUCES VZV DISEASE AND ACV-RESISTANT HSV AFTER HCT

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**Background:** Acyclovir given for 1 year prevents reactivation VZV disease during the first year after HCT, but the risk persists after the first year in patients with continued need for immunosuppressive drugs (Boeckh et al Blood, in press). The purpose of this study was to determine the efficacy of 2 sequentially introduced long-term suppressive ACV regimens at the FHCRC. **Methods:** Three cohorts of VZV seropositive recipients were examined: cohort 1 (no ACV; before 1999, n = 932), cohort 2 (ACV 800 mg or VACV 500 mg BID for 1 year; 1999–2002; n = 1117), and cohort 3 (ACV/VACV as in cohort 2 plus extended use in patients who were still taking immunosuppressive drugs at 1