CI, 30-37%) vs 33% (95% CI, 32 v 34%; p=0.71). 5 y survivals were 36% (95% CI, 32-39%) vs 35 (95% CI, 34-37%; p=0.96; Figure 1). In a univariate analysis, 5 y survival did not differ by site of EM leukemia (CNS, skin only, lymph node only, other vs no EM leukemia; p=0.28) or by time EM leukemia occurred (at diagnosis, vs at transplant; p=0.27). There was no significant difference in the rate of relapse in persons with or without EM leukemia based on intensity of pretransplant conditioning. After myelo-ablative conditioning the relative risk of relapse was 1.09 (95% CI, 0.95-1.24; p=0.21) and for RIC was 0.89 (95% CI, 0.70–1.14; p=0.36).

Conclusions: We found no impact of pretransplant EM leukemia on LFS or survival after allotransplant for AML. These data suggest decisions regarding transplants should be independent of whether or not there is EM leukemia.

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Do Patients with High Risk or Relapsed Core Binding Factor Acute Myeloid Leukemia Benefit from Salvage Allogeneic Stem Cell Transplantation?

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Background: Acute myeloid leukemia (AML) associated with inv(16), t(16;16), or t(8;21), known as core binding factor (CBF) leukemias, are generally considered favorable risk. However, relapse occurs in 30-40% of patients who achieve first complete remission (CR1). It is commonly assumed that allogeneic hematopoietic stem cell transplantation (HCT) is the preferred salvage strategy for relapsed disease, but there are few data to support this clinical practice. To help guide the practicing clinician, we retrospectively evaluated 67 consecutive patients with CBF-AML treated at a single institution from 2000-2013 to evaluate the efficacy of salvage HCT.

Patients and Methods: Of the 67 patients treated, 63 achieved a CR, 3 received supportive care and 1 died of persistent disease. Five patients received a transplant in CR1 for high-risk features, including c-kit mutation (n=3), therapy-related AML (n=1) and del-7q (n=1). Thirty-two patients relapsed, with a median time to relapse of 11.6 months (range 4.6-74.1 months), and 22 received salvage HCT in CR2 (n=21) or refractory disease (n=1). Reasons for not proceeding to salvage HCT included: infection (n=3) or organ toxicity (n=1) precluding additional therapy, patient refusal (n=1) and lost to follow up (n=4). One patient is undergoing treatment with the goal to proceed to HCT. This report includes the 27 patients (median age 39 years, range 3-67.5) who underwent HCT; patients received T-cell depleted (TCD) graft (n=17), double unit cord blood (DUCB, n=5), DUCB with TCD-haploidentical donor graft (n=2) or conventional graft

Figure 1. Overall Survival and Relapse Free Survival
Adult donors were HLA-matched related (n = 9), HLA-matched unrelated (n = 7), HLA-mismatched unrelated (n = 4). Conditioning was myeloablative in 22 patients and reduced intensity conditioning in 6.

**Results:** All patients except one engrafted. The rate of grade II-IV acute graft-versus-host disease (GVHD) at 100 days was 26% (95% CI 11-44%). The rate of chronic GVHD at 2 years was 8% (95% CI 1-24%). The cumulative incidence of relapse/progression and non-relapse mortality at 2 years was 8% (95% CI 1-22%) and 12% (95% CI 3-29%), respectively. As of July 2013, with a median follow-up among survivors of 26 months (range 2-134 months), 22 of 27 HCT recipients were alive; 2 died of relapse, 1 of GVHD and 2 of multiorgan failure. At 2 years, OS for patients receiving a HCT was 80% (95% CI 58-91%) and PFS was 80% (95% CI 58-91%) (Figure 1).

**Conclusions:** Our data indicate that HCT represents an important salvage therapy associated with extremely favorable outcomes for patients with relapsed CBF AML and for those with high risk features at presentation. Additional studies in larger patient cohorts are needed to determine the optimal transplant strategy for this group of patients.

**Relapse after Allogeneic Hematopoietic Stem Cell Transplantation (HCT) for Acute Myeloid Leukemia (AML)/Myelodysplastic Syndrome (MDS) Following Intravenous Busulfan Plus Fludarabine Based Conditioning: Outcomes and Monocyte Chemoattractant Protein -1**

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**Introduction:** Reduced and full intensity conditioning (RIC, FIC) regimens employing intravenous (i.v.) busulfan plus fludarabine (Bu-Flu) have resulted in improved treatment related mortality and comparable overall survival in patients undergoing allogeneic HCT for AML/MDS who are not candidates for more intense regimens. However, relapse after HCT remains a leading cause of treatment failure after such conditioning regimens.

**Methods:** In Order to assess relapse following allogeneic HCT for AML/MDS, a retrospective analysis was performed to evaluate the outcomes of 55 consecutive patients with AML/ MDS (49/6) who received i.v. Bu-Flu based conditioning. Blood samples were collected post HCT in a subset of those patients (30 patients). Serum values of 42 biological markers were measured at day 30 post HCT (2/30 patients were day 60 samples) using multiplex Luminex assay. Patients characteristic are shown in Table 1. Patients received single daily dose of iv Bu 3.2 mg/kg for 2 days (RIC, Bu2-Flu) or 4 days (FIC, Bu4-Flu) based on age, older or younger than 65 respectively. Fludarabine was given as a single daily dose of 40 mg/kg for 4 days. Graft versus host disease prophylaxis was Tacrolimus/Methotrexate in FIC recipients and Tacrolimus/Mycophenolate in RIC recipients. Low dose thymoglobulin of 4.5 mg/kg was used in unrelated donor HCT recipients.

**Results:** With a median follow up of 18 month, the overall survival (OS) at 1 & 2 years was 73 ± 6% and 67 ± 7%, respectively. (Fig 1). Similarly, disease free survival at 1 and 2 years was 64 ± 7%. As expected, there was low cumulative incidence of treatment related mortality of 8 ± 3% at 1 and 2 years while the cumulative incidence of relapse was 28.0 ± 3% and 31 ± 2% at 1 and 2 years respectively, (Fig 2). Cumulative incidence of grade II-IV acute GVHD was 54% with grade III-IV of 25% at day 100. Cumulative incidence of chronic GVHD was 49, 54% at 1 and 2 years respectively. In a subset of patients where chemokine analysis was performed (30 patients), only MCP-1 levels at day 30 post HCT were predictive of relapse out of the 42 biological markers tested. The 7 out of 30 patients who relapsed in this subset (23%) had higher mean level of MCP-1 at day 30 of 537, SD ± 213 versus 324, SD ± 160, P=0.007, (Fig 3). MCP-1 was predictive of leukemic relapse 82 days in advance on average prior to overt hematological relapse. Full chimerism (>95%) was detected at Day 30 in 5/7 patients who relapsed in the biological marker group.

**Conclusion:** Bu-Flu based conditioning regimens result in improved OS in patients with AML/MDS but do not impact relapse rate after allogeneic HCT. Serum MCP-1 levels in the early post-transplant period were predictive of relapse in subset of patients where post HCT biomarkers were available. Future larger studies may find potential role of MCP-1 in...