

multiple potential donors, transplant physicians still face scenarios where the recipient has DSA against the appropriate donor. If alternative donors are not available, desensitization to remove the alloantibodies from the recipient's serum ahead of transplant is recommended to minimize the risk of GF. **Objective:** To study the outcomes, prevalence, and impact of DSA and anti-HLA of myeloablative haploidentical transplant for malignant hematological diseases. **Patients and Design:** We conducted retrospective analysis of our blood and marrow transplant database. We identified 107 patients who received myeloablative haploidentical hematopoietic cell transplantation between January 2013 and December 2020. Sixty-two recipients were male (58%) and 45 were female (48%). The median recipient age was 22 (range: 1–56). Most pairs had matched ABO blood groups (76 pairs [71%]). The graft source was bone marrow in 83 patients (78%). The median infused CD34 cell dose was  $4.02 \times 10^6/\text{kg}$  (range: 1.3–13.1). Sixty-one recipients (57%) had positive anti-HLA; of these, 17 had DSA (15% of the total number of patients, 28% of patients with anti-HLA antibodies). The median cumulative mean fluorescence intensity was 2,062 (IQR: 1,038–6,500). **Outcomes:** Overall survival, cumulative incidence of relapse, acute graft-versus-host disease, and chronic graft-versus-host disease were comparable between patients with anti-HLA antibodies and those without and between patients with DSA and those without. Recipient and donor gender and recipient/donor gender mismatch showed statistical association with the incidence of anti-HLA antibodies but not DSA. Of the 17 patients with DSA, five underwent desensitization. C1q assay was done pre and post desensitization. Three patients developed GF (2.8%): one was primary (0.9%) due to low CD34 dose, and two had secondary GF (1.9%). None of these cases occurred in patients with anti-HLA antibodies or DSA. The median time from transplant to GF was 2.23 months (range: 0.8–2.89). The median time to absolute neutrophil count and platelet engraftment was 16 days. **Conclusions:** Our study shows that desensitization may not be required in the setting of myeloablative transplant for malignant hematological disorders. This warrants further investigations in prospective trials. **Keywords:** CT, DSA, haploidentical, transplant, myeloablative

### CT-028

#### Clofarabine and Total Body Irradiation as a Conditioning Regimen for Allogeneic Stem Cell Transplantation in High-Risk Acute Leukemia

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**Context:** Clofarabine is an immunosuppressive purine analog that may have better anti-leukemic activity than fludarabine as a conditioning regimen for stem cell transplantation in acute leukemia. The addition of total body irradiation (TBI) to conditioning regimens has been widely investigated. However, the use of single-agent clofarabine in combination with higher doses

of TBI ranging from 4 to 8 Gy has not been studied. **Objective:** The aim of this study is to identify the outcome of patients with hematological malignancies who underwent allogeneic stem cell transplantation from full-matched or haploidentical donors and received clofarabine and TBI as a conditioning regimen. **Design:** This is a double center, observational, retrospective study of patients diagnosed with high-risk acute leukemia (2015–2020) and treated at the American University of Beirut Medical Center in Lebanon and Saint-Antoine Hospital in Paris, France. **Main Outcome Measures:** Data regarding patient baseline characteristics, disease-related factors, and transplant outcomes, including progression-free survival (PFS), overall survival (OS), graft-versus-host disease (GvHD), and transplant-related mortality (TRM) were collected. **Results:** We identified 23 patients with a median age of 43 years (range 21–78). Of them, 14 (61%) were male, 11 (48%) had acute myeloid leukemia, and 11 (48%) had acute lymphoblastic leukemia. At time of transplant, 14 patients (61%) were in complete remission and 8 patients (35%) had refractory disease. Nine patients (39%) received transplants from a matched related donor, 8 (35%) from a haploidentical related donor, 4 (17%) from a matched unrelated donor, (MUD), and 2 (9%) from an unrelated cord blood donor. All patients received clofarabine. For TBI, 20 patients (87%) received a total dose of 4 Gy and 3 (13%) received 8 Gy. Fifteen patients (65%) received anti-thymocyte globulin. After a median follow-up of 22.4 months, the 2-year PFS and OS were 48% and 43%, respectively. GvHD relapse-free survival at 1 year was 22%. TRM at 100 days and 1 year after transplant were 4% and 13%, respectively. **Conclusions:** The use of clofarabine in combination with TBI as a conditioning regimen for allogeneic stem cell transplant in high-risk acute leukemia confers disease control with low transplant-related mortality. **Keywords:** CT, acute leukemia, high risk, allogeneic stem cell transplant, clofarabine, total body irradiation

### CT-039

#### Health-Related Quality of Life Following Allogeneic Hematopoietic Stem Cell Transplantation With Omidubicel Versus Standard Umbilical Cord Blood

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