PFS (53% vs 13%, p = 0,004). Day 100 chimerism does not predict incidence of cGVHD, relapse, or overall survival. Day 56 chimerism result was higher for patient who experienced aGVHD (median 89% vs 78%, p = 0,048) and was associated with better OS if less than 82.5% (84% vs 53%, p = 0,01).
Conclusion: Limiting CD34 cell dose could lower incidence of cGVHD presumably without influencing relapse incidence and overall survival, while limiting CD3 cell dose could improve survival. Early evaluation of chimerism at day 56 is relevant to identify patients who will experience aGVHD and predict survival.

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STEM CELL TRANSPLANT ADVERSE REACTIONS (STAR) ANALYSIS: DOES A HIGHER INFUSION RED BLOOD CELL CONTENT CORRELATE WITH SERIOUS ADVERSE EVENTS?

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Introduction: Stem cell transplantation has emerged as a treatment option for patients with hematologic malignancies. With transplantation, however, there is a risk of adverse events associated with the stem cell infusion. These events were previously attributed to the cryoprotectant used in cell preparation, but the persistence of these events with cryoprotectant depletion suggests the involvement of other factors. Recently, the red blood cell content of stem cell infusions has been implicated in transplant related adverse events including bradycardia and renal toxicity. We analyzed the Northwestern University transplant experience to determine whether the red blood cell content of an infusion correlated with serious adverse reactions such as stroke and seizure.
Methods: We conducted a retrospective chart review of all hematologic malignancy patients at our center who received stem cell transplants between 1/1/08 and 5/1/11. Detailed patient and infusion characteristics were collected.
Results: We identified 462 hematologic malignancy patients who received stem cell transplants. The mean red blood cell content per kilogram body weight of the stem cell infusion for the entire population was 0.25 mL/kg ± .34 (range 0.02-4.32 mL/kg). Five patients had serious adverse reactions including stroke (3 patients), seizure (1 patient), and nausea, vomiting, and flushing (1 patient). The mean red blood cell content per kilogram body weight of the stem cell infusion for these 5 patients with serious adverse events was 0.34 mL/kg ± 0.20 (range 0.13-0.63).
Conclusions: Our preliminary results suggest that serious adverse events at the time of stem cell transplantation are generally rare, but can be devastating. We note a slightly higher red blood cell content amongst those patients experiencing these types of events compared to the study population as a whole. However, further study is ongoing to determine whether there is a correlation between RBC content and serious adverse events at the time of stem cell re-infusion.

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DESPITE THE USE OF THE COMBINATION OF G-CSF AND PLERIXAFOR FOR STEM CELL MOBILIZATION, ONE THIRD OF THE PATIENTS WITH LYMPHOMA WERE STILL "POOR MOBILIZER" USING THE CRITERIA RECENTLY PROPOSED BY GITMO (< 2.0 X 10^6 CD 34 + CELLS PER Kg in ≤ 3 APHERESIS)

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Background: Gruppo Italian Trapianto di Midollo Osseo (GITMO) recently proposed a new definition on "poor mobilizer" based on G-CSF (G) +/- chemotherapy based mobilization strategy (BMT (2011), 1-10). Data on using the combination of G + plerixafor (P) for mobilization (Mob) were however not utilized to formulate this proposal. Method: In this retrospective analysis, we examined the Mob kinetic, incidence and characteristics of "poor mobilizer" as proposed by GITMO in pts receving G + P for mob. Between 02/09 & 05/10, 58 consecutive pts with NHL, HD, or MM underwent Stem Cell Mobilization at our instituion using the combinaiton of G + P. Mob consisted of G-CSF 10 μg/kg SC administered daily at 6:00 am on days 1 through 4 plus plerixafor 0.24 mg/kg SC given once daily at 5:00 pm in an outpatient clinic beginning on day 4. Thirty-one (53%) pts had lymphoma (28 NHL & 3 HD) & 27 (47%) patients had MM. The median age was 57.3 years (range, 30.4-71.1). At the time of mob, all pts except 3 (5%) had chemo-responsive disease. One third of pts had received > 2 prior chemotherapy regimens and nearly half (43%) had received prior radiation therapy. Seven (12%) pts (4 NHL and 3 MM) had undergone previous mob attempts that did not include P.
Results: The median total CD34+ cell yields were 3.06 × 10^6 and 8.27 × 10^6 CD34+ cells/kg for lymphoma and myeloma pts, respectively. Apheresis yielded an adequate number of CD34+ cells in a median of 2 days (range, 1-4). The minimum CD34+ cell yield (2 × 10^6 CD34+ cells/kg for lymphoma pts; 4 × 10^6 CD34+ cells/kg for myeloma pts was achieved in 45 (78%) pts, including 23 (74%) lymphoma and 22 (81%) myeloma patients. 26 of 27 (96%) myeloma pts achieved yields of ≥2 x 10^6 CD34+ cells/kg. 30 (52%) pts (14 [45%] lymphoma; 16 [59%] myeloma) achieved their respective minimum CD34+ cell yields within 1 apheresis day. On the other hand, 12 (39%) pts with lymphoma and 1 (4%) pt with myeloma were identified as poor mobilizer using the criteria proposed by GITMO. Advanced disease, refractory disease, extensive BM involvement or cellularity < 30% and age > 65 did not predict for poor mobilization.
Conclusion: We conclude that despite the use of G-CSF + P, one third of the pts with lymphoma are still "poor mobilizer" and larger study will be required to identify predictors for poor mobilization for pts using G-CSF + P as mobilization strategy. Additional measures are required to further improve mobilization efficiency for lymphoma pts.

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ANALYSIS OF INF-γ AND TNF-α, CXCL-10 CHEMOKINE AND ITS RECEPTOR CXCR-3 EXPRESSION IN SKIN BIOPSIES FROM PATIENTS WITH ACUTE GRAFT-VERSUS-HOST DISEASE

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Introduction: Acute graft-versus-host disease (aGVHD) is one of the most frequent complications in patients undergoing allogenic hematopoietic stem cell transplantation (HSCTs), occurring in 35% to 50% of cases. The pathophysiology of this disease is characterized by immunological factors causing tissue injury in various organs such as skin, liver and gastrointestinal tract. The skin is usually the initial target of the disease, and also the organ most affected. Cytokines and chemokines participate in several important inflammatory processes and has been described as important molecules in the development of aGVHD.
Objective: Evaluate the expression profile of cytokines INF-γ and TNF-α, the chemokine CXCL-10 and its receptor CXCR-3 in skin biopsies of patients undergoing allogeneic HSCT who developed or not aGVHD in skin.
Material and Methods: We analyzed by immunohistochemistry, 32 skin biopsies of patients undergoing allogeneic HSCT at the Bone Marrow Transplantation Center (CEMO-INCA) (24 with and 08 without aGVHD) on day D-8, D0, D +14, D +28 and D +100. Skin biopsies of healthy donors were used as control.
Results: The labeling of INF-γ and TNF-α, CXCL-10 and CXCR-3 in skin biopsies of patients who had aGVHD or not remained at the level of the basal layer of epidermis. However, there was an increased expression of these molecules in all patients assessed when compared with the level of expression in skin biopsies of healthy donors. In addition, no significant differences were found when comparing the level of expression of these molecules in pre-HSCT (day D-8) with the day of diagnosis.
Conclusion: These results suggest that the expression of cytokines INF-γ and TNF-α, CXCL-10 chemokine and its receptor CXCR-3 in skin biopsies of patients does not appear to be related to aGVHD but with procedures related to transplantation.
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