patients were divided into group I, II, III. With a complete response, patients received the same mobilization regimen: 1EA (cytarabine 1.0g in Rhus 12 hours × 3–5days; etoposide 0.1–0.2g in IV, every 12 hours × 3–5days) chemotherapy combined granulocyte-colony stimulating factor (G-CSF) 5–10ug/kg/d. G-CSF starting after completion of chemotherapy 4 to 5 days when WBC down to the bottom until the end of theophyllin. Apheresis was scheduled to start when the WBC count recovered ≥4.0 × 10^9/L or the CD34 cells ≥ 0.01% WBC of PB. After 24–48 following high-dose conditioning regimens (mostly busulfan/cyclophosphamide) ,grafts were infused. The efficacy of PBSC mobilization, hematopoietic reconstitution, survival rates were assessed for each Arac group.

**Results:** The median doses of CD34 cell in those three Arac groups were 4.7±10^6/kg, 2.8±10^6/kg, 2.2±10^6/kg, respectively(P=0.006). In addition, patients collected 3.2±10^6/kg numbers of CD34 cells in groups I need the lowest leukapheresis, total bloodvolume processed, G-CSF total dose and days(P<0.05). A significantly greater proportion of good mobilization (≥2.0×10^6 CD34cells/kg with at most 3 leukapheresis procedures) in the group I (39/46, 84.8%) compared with the group II (13/22, 59.1%) and group III (10/19, 52.6%) (χ²=9.818, P=0.012). The sex, age, cytogenetic risk, the prior chemotherapy courses, the prior courses of the variouschemotherapeutic agent drugs except MD-ArA could not correlate with mobilization response. Multivariate analysis revealed thecourse of prior MD-ArA chemotherapy was an independent predictive factor for HSC mobilization[OR 0.627, 95% CI 0.421-0.935,P=0.022]. However, the MD-ArA chemotherapy has no effect on hematopoietic reconstitution and survival in AML patients treated with auto-HSCT(Figure1).

**Summary and Conclusions:** Exposing to the bone marrow toxic drugs is the major factor negatively effected mobilization, there mitoxantrone,fluorarabine, lenalidomide, platinum, alkylating agent, carbustine, nucloside analogue, melphalan were reported. As in previousstudies, prior exposure to MD-ArA also was an independent negative predictor for mobilization and without survival benefit. The conventional chemotherapy not accurately presented a significant influence in the mobilization in AML. In preparation for Auto-HSCT, MD-ArA must be taken into account.

**PB1879**

**AUTOLOGOUS STEM CELL TRANSPLANTATION UPFRONT IN THE TREATMENT OF PATIENTS WITH AGGRESSIVE B CELL LYMPHOMA: ANALYSIS OF PROGNOSTIC FACTOR FROM A SINGLE INSTITUTION IN JAPAN**

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**Background:** The efficacy of autologous stem cell transplantation (auto-SCT) during the first remission in patients with aggressive B cell lymphoma remains to be elucidated. A previous large study found that auto-SCT improved progression free survival (PFS) in aggressive non-Hodgkin’s lymphoma patients, but not overall survival (OS). (P.J.Stiff et al, NEJM 2013). Then we need to identify patients who will gain the maximum benefit from auto-SCT in the upfront setting. Also, it is important to establish new prognostic factors to identify the eligible patients. We focused on Glasgow Prognostic Score (GPS) which has been proposed as a powerful prognostic tool for patients with various types of malignant tumors as well as hematologic malignancy. In this study, we evaluated the efficacy regarding auto-SCT for high risk aggressive B cell lymphoma and identified the prognostic factors including GPS for auto-SCT.

**Aims:** To evaluate significance of auto-SCT for high risk aggressive B cell lymphoma and identify its prognostic factors.

**Methods:** We retrospectively analyzed 39 patients with high risk aggressive B cell lymphoma who underwent auto-SCT between 2006 and 2012 in Kansei Medical University Hospital. High risk patients were defined as high-intermediate and high risk groups stratified by international prognostic index (IPI). 17 patients received auto-SCT as upfront and 22 patients did as second-line therapy. All patients were treated by rituximab as primary therapy and evaluated by PET-CT scan. The primary endpoints were 3y-OS and PFS. Nivestim (Hospira) was used for the same purpose.

**Summary and Conclusions:** Upfront auto-SCT for high risk aggressive B cell lymphoma appears to be beneficial. Age, disease status, and GPS can predict outcome for auto-SCT. It may be useful to identify the eligible patients using these prognostic factors in undergoing auto-SCT in Rituximab-era.

**PB1880**

**IN SITU INJECTION OF CIK CELLS FOR EXTRAMEDULLARY RELAPSE OF LEUKEMIA AFTER TRANSPLANTATION: A CASE REPORT AND REVIEW OF THE LITERATURE**

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**Background:** Extramedullary leukemia relapse after allogeneic hematopoietic stem cell transplantation (HSCT) remains a formidable obstacle. Most of the patients suffered poor prognosis and eventually developed into bone marrow relapse. Current treatments including reducing and/or withdrawal of immunosuppressants, radiotherapy and chemotherapy did not permit any guarantee of promising effect.

**Aims:** We here report a patient with acute lymphoblastic leukemia (ALL) who had extramedullary relapse in manner of leukemia cutis 76 days after allogeneic HSCT.

**Methods:** We gave him chemotherapy with cytarabine 2.0 Q12h, d1-d3; idarubicin 10mg / day, d4-d5 from +85d to +89d. After chemotherapy the subcutaneous masses had extramedullary relapse in manner of leukemia cutis 76 days after allogeneic HSCT.

**Results:** We here report a patient with acute lymphoblastic leukemia (ALL) who had extramedullary relapse in manner of leukemia cutis 76 days after allogeneic HSCT.

**Summary and Conclusions:** Our case preliminarily demonstrates that in situ injection of CIK cells provides a new treatment option to therapy of extramedullary relapse after allogeneic HSCT and help to overcome the problem of inadequate targeting of extramedullary lesion during homing process of adoptive immune cells in vivo.

**PB1881**

**A COMPARATIVE ANALYSIS OF EFFECTIVENESS OF TWO GRANULOCYTE COLONY-STIMULATING FACTORS (GCSF), An ORIGINAL DRUG NEUPOGEN AND A BIOSIMILAR NIVESTIM, IN MOBILISATION OF PERIPHERAL BLOOD STEM CELLS**

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**Background:** Original biological drug Neupogen (Amgen, Roche) was used for peripheral blood stem cells mobilisation in Clinical University Hospital Centre Zagreb until April 2012. When the drug stopped being available, biosimilar Nivestim (Hospira) was used for the same purposes.

**Aims:** We evaluated the effectiveness of two granulocyte colony-stimulating factors in mobilisation of peripheral blood stem cells in patients treated for hematological malignancies.

**Methods:** A retrospective analysis was performed in patients stratified...
to mobilization, number of prior therapies, disease status, and type and frequency of comorbidities between both patient groups. The number of CD34-positive circulating cells before scheduled leukapheresis was mean 62.11 cells/μL (median 48 cells/μL, range 10-197; SEM±46.875) in all patients. The results are summarized in Table 1.

### Results:

When analysing the subset of patients treated for acute myeloid leukemia, the median number of days GCSF was administered before mobilisation was 11.5 for the Neupogen group, and 14 for the Nivestim group (p=0.892). Median value of CD34 positive cells collected was 7.6x10E6/kilogram for the Neupogen group and 7.0x10E6/kilogram for the Nivestim group (p=0.854). Median value of total number of colony forming units of the granulocyte macrophage order per kilogram collected (CFU-GM) was 58x10E4/kilogram for Neupogen group and 60x10E4/kilogram for Nivestim group (p=0.574). When analysing patient treated for multiple myeloma, we found that the median number of days GCSF was administered before mobilisation was 7 for the Neupogen group, and 8 for the Nivestim group (p=0.964). Median value of CD34 positive cells collected was 11.6x10E6/kilogram for the Neupogen group and 11.9x10E6/kilogram for the Nivestim group (p=0.459). Median value of total number of colony forming units of the granulocyte macrophage order per kilogram collected (CFU-GM) was 70x10E4/kilogram for Neupogen group and 74x10E4/kilogram for Nivestim group (p=0.574). When a matched pairs analysis was performed on this subset of patients no statistically significant difference was observed in the aforementioned parameters. When analysing the subset of patients treated for non-Hodgkin’s lymphoma, the median number of days GCSF was administered before mobilisation was 9 for both groups (p=0.755). Median value of CD34 positive cells collected was 10.9x10E6/kilogram for the Neupogen group and 13.37x10E6/kilogram for the Nivestim group (p=0.854). Median value of total number of colony forming units of the granulocyte macrophage order per kilogram collected (CFU-GM) was 58x10E4/kilogram for Neupogen group and 33x10E4/kilogram for Nivestim group (p=0.574).

### Summary and Conclusions:

Since no statistically significant difference was observed in the tested parameters we conclude that biosimilar Nivestim was not inferior when compared to the original biological drug Neupogen in peripheral blood stem cell mobilisation.

### PB1884

**THE ASSESSMENT OF THE STEM CELL MOBILIZATION IN LYMPHOMA PATIENTS: A SINGLE CENTER EXPERIENCE**

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**Background:** High-dose chemotherapy in conjunction with auto-SCT is widely recognized as the preferred modality of treatment for patients with relapsed or refractory Hodgkin disease or non-Hodgkin lymphoma at the time of chemo-

**Methods:** We retrospectively analyzed 191 pediatric patients who received autologous stem cell transplantation enrolled this study. Our patients ≥60 years of age.

**Aims:** The aim of this study was to investigate whether clinical outcomes of allogeneic HSCT in children are affected by GVHD severity.

**Results:** In a comparison of grade 0-I vs. grade II-IV aGVHD, overall survival (53.4% vs. 51.9%, p=0.958), leukemia-free survival (50.4% vs. 42.7%, p=0.588), cumulative incidence of relapse (41.2% vs. 42.6%, p=0.395), and treatment-related mortality (8.4% vs. 14.7%, p=0.856) did not significantly differ. For the absence versus the development of cGVHD, overall survival (52.5% vs. 56.5%, p=0.401), leukemia-free survival (47.3% vs. 51.6%, p=0.418), cumulative incidence of relapse (45.2% vs. 31.7%, p=0.137), and treatment-related mortality (7.5% vs. 16.7%, p=0.136) did not significantly differ. The group of patients who developed cGVHD had a tendency of lower cumulative incidence of relapse and higher treatment-related mortality than those who did not develop cGVHD. Compared with the entire cohort, patients with ALL or AML had similar survival probabilities.

**Summary and Conclusions:** The severity of aGVHD and cGVHD does not affect the clinical outcome of allogeneic HSCT in children. However, the clinical outcome of patients who develop cGVHD may improve as treatments for cGVHD advance and decrease treatment-related mortality.

**PB1882**

**STEM CELL MOBILIZATION IN ELDERLY MULTIPLE MYELOMA PATIENTS: SINGLE CENTER EXPERIENCE**

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**Background:** Multiple myeloma (MM) is a tumor disease of the plasma cell that results in the production of an abnormal protein. Myeloma patients have a median age at diagnosis of 70 years. In a recent study, patients ≥60 years of age.

**Aims:** We retrospectively compared myeloma patients below the age of 65 with patients above 65 years of age, analyzing CD34 mobilization into peripheral blood compared to a younger population. This can be overcome by an increased number of leukaphereses.

**Results:** The number of days GCSF was administered before mobilisation was 7 for the Neupogen group, and 8 for the Nivestim group (p=0.064). Median value of CD34 positive cells collected was 8.15x10E6/kilogram for the Neupogen group and 9.02x10E6/kilogram for the Nivestim group (p=0.728). When analysing the subset of patients treated for non-Hodgkin’s lymphoma, the median number of days GCSF was administered before mobilisation was 9 for both groups (p=0.755). Median value of CD34 positive cells collected was 10.9x10E6/kilogram for the Neupogen group and 13.37x10E6/kilogram for the Nivestim group (p=0.854). Median value of total number of colony forming units of the granulocyte macrophage order per kilogram collected (CFU-GM) was 58x10E4/kilogram for Neupogen and 33x10E4/kilogram for Nivestim group (p=0.574).

**Summary and Conclusions:** Our data support the observation that after a standard mobilization regimen with anti-myeloma chemotherapy and once-daily growth factor support, patients above 65 years of age show an impaired CD34 mobilization into peripheral blood compared to a younger population. This can be overcome by an increased number of leukaphereses.

**PB1883**

**ASSOCIATION OF GRAFT-VERSUS-HOST-DISEASE SEVERITY WITH LEUKEMIA RELAPSE AFTER ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION IN CHILDREN**

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**Background:** The graft-versus-leukemia (GVL) effect plays a major role in reducing the risk of relapse after allogeneic hematopoietic stem cell transplantation (HSCT). Because the GVL effect is extremely similar to that following graft-versus-host-disease (GVHD), severity of GVHD is believed to correlate with the GVL effect. GVHD may be associated with a reduced incidence of leukemic relapse; however, it is the leading cause of treatment deaths and increases treatment-related mortality.

**Aims:** The aim of this study was to investigate whether clinical outcomes of allogeneic HSCT in children are affected by GVHD severity.

**Methods:** We retrospectively analyzed 191 pediatric patients who received allogeneic HSCT from January 1, 1985, to March 31, 2013; these included 116 patients with acute lymphoblastic leukemia (ALL) and 75 patients with acute myeloid leukemia (AML) or myelodysplastic syndrome (MDS). Acute GVHD (aGVHD) was evaluated according to the International Bone Marrow Transplant Registry grading system and chronic GVHD (cGVHD) was categorized as either limited or extensive. Differences in patient characteristics and outcomes were evaluated using Fisher’s exact test for categorical variables and the Wilcoxon rank-sum test for continuous variables. A Kaplan-Meier survival analysis with the log-rank test was used to compare survival.

**Results:** The severity of aGVHD and cGVHD does not affect the clinical outcome of allogeneic HSCT in children. However, the clinical outcome of patients who develop cGVHD may improve as treatments for cGVHD advance and decrease treatment-related mortality.