been related to patients' perceived quality of life more than the clinical measurable variables of the disease and its treatment.
Conclusions: Therefore, the psychological status of the patients has to be taken into a proper account in evaluating even the clinical impact of the HSCT on their quality of life and preventive corrections and therapeutical acts, if needed, have to be taken. The HSCT team should include psychologists to work with the clinicians in order to evaluate, during the treatment, the impact of these factors affecting perceived quality of life related to HSCT.

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Validation of the predictive power of the haematopoietic cell transplantation co-morbidity index, performance status for non-relapse mortality and long-term survival after autologous transplantation in patients with haematological malignancies

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The hematopoietic cell transplantation comobrbidity index (HCT-CI) was developed as a sensitive tool to capture pretransplant comorbidities among transplant recipients which will have influence on non relapse mortality (NRM) and overall posttransplant survival (OS). HCT-CI has not been widely validated among autologous recepients. We retrospectively evaluated if HCT-CI and karnofsky performance status (PS) and other readily available pretransplant variables concerning pretransplant mobilization strategies can predict the outcome of autologous recipients in our transplant center.
We stratified outcomes among 120 consecutive adult autologous recipients (47 AML in first remission, 24 HD, 27 MM, 16 NHL, 4ALL). HCT-CI risk was low in 10 (12%), intermediate in 22 (27%) high in 45 (55%) and undetermined in 5 (6%). Two year OS was 45% (95%CI: 24–64%), 55% (95%CI: 40–68%) and 42% (95%CI: 24–64%) in the low, intermediate and high-risk HCT-CI groups respectively. Two year NRM was 36% (95% CI: 17–36%), 26% (95% CI: 15–39%) and 30% (95% CI: 22–39%) in the low, intermediate and high-risk HCT-CI groups respectively. The multivariate analysis revealed that HCT-CI failed in prediction of OS and NRM but KPS (<90%) was a strong predictor of NRM as an independent predictor. The variables concerning mobilization of stem cells (chemotherapy with G-CSF versus G-CSF alone and the dose of infused CD34+ $>4{,}0\times10^6$/kg and $<4.0\times10^6$/kg in the three risk HCT-CI groups revealed that patients with HCT-CI score >3 and intermediate and high risk disease that received $<4.0\times10^6$/kg had 2 year NRM <30% and OS<45%, as well the patients mobilized with chemotherapy +G-CSF showed lower NRM in the HCT-CI >3 (intermediate and high risk disease). To determine the validity of HCT-CI, KPS and weather to include the the independent variables concerning the mobilization strategy and stem cell dose that we analyzed, a multi-center collaboration is necessary to produce an adequately powered validation study for risk stratification of autologous recipients.

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Genetic polymorphism of NQO1 is associated with an increased treatment-related mortality in patients undergoing allogeneic transplantation

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Background: The widely expressed detoxification enzyme NAD(P)H:quinine oxidoreductase 1 (NQO1) is involved in the cellular response to oxidative stress and irradiation and protects cells against the mutagenicity from free radicals and toxic oxygen metabolities. NQO1 is subject to a genetic polymorphism (C609T) leading to a change in its amino acid sequence. Heterozygous individuals C/T have intermediate activity and homozygotes T/T are NQO1 deficient. Never before the influence of genetic polymorphisms of NQO1 on patients who underwent allogeneic transplantation, was evaluated.
Methods: Here we genotyped in a retrospective study 198 patients (and their donors) for NQO1 expression who underwent allogeneic transplantation for various diseases and analyzed their outcome. Genotyping of NQO1 was performed by real-time PCR.
Results: 145 patients (73.2%) were genotyped as homozygous wild-type gene C/C, 48 patients (24.2%) were genotyped as heterozygous genotype C/T and five patients (2.5%) were genotype as homozygous gene mutation T/T. From the donors 147 donors (74.2%) were C/C, 50 donors (25.3%) were C/T, and one donor (0.5%) had a homozygous gene mutation T/T. Calculated genotype frequencies did not differ from that reported earlier by other studies for Caucasians. Five-year estimate for TRM was highest in genotype C/T- and T/T-patients with 39% +11% compared to homozygous wild-type gene C/C-patients (21% + 3.9% [$P<0.045$]), whereas the five-year estimate for relapse or overall survival were not statistically different between the groups. No differences for five-year estimates for TRM, relapse rate, or OS were seen in patients with either genotype C/C-, C/T- or T/T-donors. No statistic differences were found in the incidence of acute GVHD grade 2–4 within the study groups.
Conclusions: These results suggest that patients with genetic polymorphism of NQO1 do have an increased TRM after transplantation. Genotyping for NQO1 (C609T) might help to identify patients with higher risk for TRM.

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Influence of rKGF on intestinal mucosal damage measured by citrulline in autologous haematopoietic stem cell transplant recipients treated with BEAM: a safety and efficacy study

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Background: Mucositis is a complication of intensive chemotherapy and radiotherapy that is debilitating for patients and plays a distinct role in determining the outcome of haematopoietic stem cell transplantation (HSCT). Despite encouraging data regarding the effectiveness of rKGF (recombinant human keratinocyte growth factor) on oral mucositis there is a dearth of data regarding its activity on intestinal mucosal barrier injury (MBI). Main reason is the inaccessibility of the gut. Citrulline is an aminoacid that can be determined in blood, which is a functional marker of small intestinal enterocytes. Low citrulline concentrations in blood coincide with and are a response to, severe MBI and associated with bacteraemia. In the present study, we examined the efficacy and safety of rKGF on intestinal MBI induced by cytotoxic therapy using citrulline as parameter.
Patients and methods: Between July 2006 and November 2008 in a single center study 19 patients undergoing autologous HSCT after BEAM were treated with rKGF and retrospectively compared to a matched control group. Outcomes assessed were: safety, daily oral mucositis score (DMS), daily gut score (DGS), course of absolute neutrophil count, C-reactive protein and citrulline, occurrence of neutropenic fever and bacteraemia.
Main results: The common side effects of rKGF included rash and erythema, which occurred in all patients and were mild (37% CTC grade 1 and 63% CTC grade 2) and transient in appearance. rKGF recipients showed a significant reduction of approximately 30% in the DMS (between day 10 and 13) and DGS (between day 15 and 18). No significant difference in the course of citrulline was seen between the patients. In both treatment groups 9 patients developed bacteraemia (respectively 6 patients with coagulase-negative staphylococci and 3 patients with viridans streptococci in both groups).
Conclusions: The administration of rKGF was generally tolerated and safe. rKGF had a beneficial influence on the signs and symptoms related to oral and intestinal mucositis. However, no impact on the course of citrulline and bacteraemia was seen.