

EBMT MEETING 30th March – 2nd April 2008, FLORENCE, ITALY

Dr Sergio Querol MD, PhD

Head- Cord Blood Services

The Anthony Nolan Trust

The European group for Blood and Marrow Transplantation (EBMT) meeting held this spring in Florence allowed the participants to enjoy hearing about progress in haematopoietic transplantation in the surroundings of one of the richest period of creativity in human history. In this inspirational environment, the major areas of progress discussed were clinical and included:

- (i) The consolidation and improvement of cord blood and haploidentical transplantation, which together could result in an allogeneic procedure being available to practically all patients in need.
- (ii) The importance of analysis of early and late side effects of transplantation and the role of the EBMT score to predict outcome after allogeneic HSCT in all haematological disease categories, types of conditioning and stem cell sources.
- (iii) Improving outcome by using prophylactic strategies to reduce complications such as infection and graft versus host disease.

Of these, cord blood transplantation (CBT) received substantial attention. First of all, natural killer (NK) alloreactivity was demonstrated in cord blood and recognised with the van Bekkum award. A study presented by Prof Willemze on behalf of Eurocord showed a decreased incidence of relapse and consequently an improved disease-free survival when a myeloablative, single donor cord blood transplant with an inhibitory KIR-ligand mismatch was performed in patients with acute leukaemia in complete remission. Results following double cord blood transplantation with reduced intensity conditioning (RIC) continue to show reasonably good results. Cooperative groups in France, Netherlands and Sweden presented their initial data demonstrating the feasibility of this approach. Double CBT was also proposed as a good strategy for hematopoietic rescue after primary engraftment failure because of the rapid availability of the product and the much better outcomes compared to reinfusion of autologous back up bone marrow.

The Eurocord group presented an interesting analysis of CBT in lymphoid malignancies. In this retrospective study, data were analysed from 104 patients of whom 13 had chronic lymphocytic leukaemia (CLL). Patients were in a very advanced stage of the disease with 60% having already undergone an autologous transplant. The preferred conditioning was a reduced intensity regimen using low dose total body irradiation (TBI). Engraftment was achieved in 85% of the patients and correlated with CD34 dose. The cumulative incidence of non-relapse mortality at 1 year was 28%. Relapse occurred in 31% of the patients after 1 year follow up. Probability of progression free survival was 41% for this high-risk group with better performance for NHL patients receiving double CBT RIC with low dose TBI. These early results suggest a role for CBT using low dose TBI conditioning in patients with advanced lymphoid malignancies especially for those with indolent lymphoma and chemosensitive disease.

Several groups presented their single centre experience of allogeneic transplantation in CLL using mainly RIC protocols. The graft versus leukaemia effect against this disease was convincingly demonstrated. Interestingly, the Barcelona group reported that T cell depleted grafts could be associated with late relapses even more than 4-years after transplantation.

Finally, adoptive cell therapies maintain their promise but are still some way from entering routine clinical practice. In this regard, mesenchymal stem cells, antigen specific cytotoxic T-cell production, stem cell ex vivo expansion, cellular vaccination and ex-vivo allodepletion continue to generate big interest among translational research groups.