was 90% (95%CI: 82-98) with a median chimerism of 100% (range 72-100) by day 100. The cumulative incidences of grade II-IV and grade III-IV acute GVHD were 61% (95%CI: 14-78) and 27% (95%CI: 14-40) at day 100, and chronic GVHD was 36% (95%CI: 20-52) at 1 year. TRM was 18% (95%CI: 8-28) at day 180, and relapse/progressive disease was 31% (95%CI: 17-45) at 1 year. Regression of relapsed or persistent disease has been seen in patients with myelodysplasia and intermediate and low grade lymphoid malignancies (n = 8). The probability of overall and progression-free survival was 57% (95%CI: 40-73) and 48% (95%CI: 32-63) at 1 year. Notably, day 180 transplant related mortality (TRM) in patients aged ≥45 years was 11% (95%CI: 1-21), and in patients with extensive prior therapy was 25% (95%CI: 6-44). However, patients with serious co-morbidities pre-transplant had a high TRM of 45% (95%CI: 20-70) at day 180 ($p < 0.01$). These data suggest that this regimen is both non-myeloablative and associated with a high incidence of donor engraftment with low toxicity. Further, this approach appears to extend access to transplant to many adults who would otherwise be ineligible based on lack of donor and/or inability to tolerate high-dose conditioning.

4

CLINICAL RESULTS IN UMBILICAL CORD BLOOD RECIPIENTS WITH HEMATOLOGICAL MALIGNANCIES USING MYELOABLATIVE REGIMENS

Takahashi, S. University of Tokyo, Japan.

Unrelated cord blood transplantation (CBT) has now become more common, but as yet there have been only a few reports on its outcome in adults. We studied the clinical outcomes of 68 adult patients with hematological malignancies who received unrelated CBT and compared with bone marrow transplantation (BMT, n=45) from unrelated donors. All recipients received transplantations after myeloablative regimens including 12 Gy of TBI between 1996 and 2003. We analyzed the hematopoietic recovery, rates of GVHD, risks of TRM and relapse, and DFS using Cox proportional-hazard regression models. The time from donor-search to transplantation was significantly shorter among CBT recipients (median 3 months) than BMT recipients (median 11 months). The 6 possible matches between the recipient and the donor were scored serologically for HLA-A and B and genetically for DRB1 alleles and the results showed 39 (87 %) matched grafts in BMT and no complete matches in CBT. Although the number of leukocytes for CBT was 1 log lower than in BMT, 64 out of 68 (94 percent) cord blood grafts contained more than 2.0×10^7 cells per kilogram. Multivariate analysis demonstrated slow neutrophil and platelet recoveries in CBT compared with BMT. Despite the higher HLA mismatching rate and less use of immunosuppressive drugs such as steroids even in recipients affected with acute GVHD higher than grade II, probability of grades III and IV acute GVHD was significantly lower than among BMT recipients in multivariate analysis. There were no GVHD-related deaths among CBT recipients, compared with 10 deaths out of 24 among BMT recipients. On the other hand, There was no significant difference between CBT and BMT recipients in chronic GVHD incidence. Unrelated CBT showed better TRM, relapse and DFS results compared with BMT. These data strongly suggest that CBT could be safely and effectively used for adult patients with hematological malignancies.

5

COMPARISON OF UNRELATED CORD BLOOD AND BONE MARROW TRANSPLANTS IN ADULTS WITH ACUTE LEUKEMIA

Gluckman, E. Eurocord Hospital Saint Louis, Paris, France.

Background. Unrelated cord blood is an alternative to bone marrow cell transplantation in patients with hematopoietic diseases, mainly in children. The objective of this study was to compare both sources of stem cells to treat adults with acute leukemia (AL). **Patients and Methods.** We compared 98 adults with AL given an HLA-incompatible unrelated cord blood transplants (UCBT) with 584 HLA-matched unrelated bone marrow transplants (UBMT) performed between 1998 and 2002 and reported to the Eurocord and European Blood and Marrow Transplant registry. Outcomes were compared using multivariate analysis to adjust for confounding clinical factors. **Results.** Recipients of UCBT were younger (median 24.5 versus 32 years, $p<0.001$), weighed less (median 58 versus 68 kg, $p<0.001$), and had more advanced disease at transplant (52% versus 33%, $p<0.001$). All UBMT were HLA-matched whereas most of UCBT were HLA-incompatible ($p<0.0001$). The median number of nucleated cord blood cells infused was 0.23×10^8/kg compared with 2.9×10^8/kg nucleated bone marrow cells ($p<0.001$). Multivariate analysis demonstrated lower risks of grade II-IV acute graft versus-host disease ($p<0.001$) after UCBT, however neutrophil recovery was significantly delayed ($p=0.001$). Transplantation-related mortality, relapse, chronic GvHD, and leukemia-free survival were comparable between UCBT and UBMT recipients. **Conclusion.** These results suggest that UCBT is an alternative treatment for adults with AL lacking an HLA-matched sibling bone marrow donor.

6

UNRELATED-DONOR CORD BLOOD TRANSPLANTATION IN PATIENTS WITH CHRONIC MYELOID LEUKEMIA

Sanz, G.F., Moscardó, F., Jiménez, C., Lorenzo, I., Planelles, D., Larrea, L., Cervera, J., Benlloch, L., Barragán, E., Senent, L., Cantero, S., Montesinos, P., Remigia, M.J., Sanz, M.A. Hospital Universitario La Fe and Centro de Transfusion de la Comunidad Valenciana, Valencia, Spain.

Despite the promising results with imatinib, allogeneic stem cell transplantation remains the only proven curative approach for patients with chronic myeloid leukemia (CML). This study reports the results of unrelated-donor cord blood transplantation (UD-CBT) in a series of 20 patients with CML treated in a single institution. Fourteen were in chronic phase (CP; 8 in CP1 and 6 in CP2), 2 in accelerated phase and 4 in blast crisis. Median age was 32 years (range, 16-46). Conditioning consisted of thiotepa, busulfan, cyclophosphamide and antithymocyte globulin, and GVHD prophylaxis of cyclosporine and prednisone. HLA match was 5/6 in 7 cases and 4/6 in 13. The median number of nucleated and CD34+ cells infused was 1.8×10^7/kg (range, 1.2-4.9) and 0.8×10^5/kg (range, 0.3-2.2), respectively. Median time to PMN above 0.5×10^9/L and to platelets above 20×10^9/L was 22 days (range, 10-52) and 69 days (range, 43-188), and the cumulative incidence of myeloid and platelet engraftment was 85% and 45%, respectively. Time to myeloid engraftment showed a direct relationship with the number of CFU-GM ($P = .009$) and CD34 cells ($P = .02$) infused. Platelet engraftment was faster in patients receiving a higher number of CFU-GM ($P = .05$), in those transplanted in CP ($P = .04$) and in those not developing acute GVHD above grade I ($P = .001$). Eight patients developed acute GVHD above grade II, and 7 of 11 patients at risk had extensive chronic GVHD. With a median follow-up of 49 months (range, 28-82), the probability of disease-free survival (DFS) at 3 years was 40% and was related to age ($P = .01$) and phase of the disease at transplant ($P = .04$). The probability of DFS at 3 years was 60% for patients younger than 31 years and 57% for those transplanted in CP. Six of 8 patients aged 30 years or younger and transplanted in CP remain alive and disease-free. These data suggest that UD-CBT is an acceptable alternative for younger patients with CML in CP requiring transplantation and lacking a HLA-matched family or unrelated bone marrow donor.

7

COMPARISON OF UNRELATED CORD BLOOD AND UNRELATED BONE MARROW TRANSPLANTS FOR ADULTS WITH LEUKEMIA A Collaborative Study: The New York Blood Center National Cord Blood Program And The International Bone Marrow Transplant Registry

Laughlin, M.J. Case Western Reserve University, Cleveland, Ohio.

Though little is known regarding the safety and efficacy of umbilical cord blood (UCB) transplantation in adults, these are increasingly used in older subjects. We compared the results of 169, ≥1-antigen mismatched UCB, 83, 1-antigen mismatched and 367, matched bone marrow (BM) transplants in patients age 16-60