UCBT on the development of CMV antigenemia might be considered when designing future transplant strategies, at least until more effective methods for prophylaxis of CMV reactivation become available.

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Key words: unrelated cord blood transplantation, cytomegalovirus, antigenemia, HRP-C7.

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References


Stem Cell Transplantation

Two allogeneic hematopoietic stem cell transplantations without the use of blood-product support

We successfully performed two allogeneic hematopoietic stem cell transplantations from matched unrelated donors without the use of blood-product support after treosulfan-based conditioning in two women with acute myeloid leukemia who were Jehovah’s witnesses and refused transfusions of blood products.

In the last two years we were confronted with a mother and her daughter with acute myelogenous leukemia (AML) who were both members of the community of Jehovah’s witnesses, a religious group that refuses transfusion of any major blood product.

Despite their religious objection to blood products we offered both induction chemotherapy and allogeneic hematopoietic stem cell transplantation as consolidation therapy, which they accepted. We felt able to propose this strategy for two reasons: (i) based on our experience with a stringent therapeutic platelet transfusion protocol that we have developed during the last years, we know that severe thrombocytopenia can be managed without prophylactic platelet transfusion. In more than 200 patients (during induction chemotherapy for AML or after autologous peripheral stem cell transplantation) we have shown that a therapeutic transfusion strategy is safe.

In one third of our patients autologous transplantation could be performed without any platelet transfusions. Bleeding complications among patients transfused on demand were completely comparable to those among our former patients who received prophylactic platelet transfusions at a trigger platelet count of 10\times10^9/L, (ii) we used allogeneic stem cell transplantation after a reduced toxicity conditioning regimen as consolidation treatment since hematologic regeneration could be expected to be significantly quicker than after repeated cycles of high-dose cytosine arabinoside as consolidation. The same is true for autologous transplantation because stem cells should be collected only after a minimum of two intensive courses of chemotherapy as in vivo purging. The risks of graft-versus-host disease (GVHD) after allogeneic transplantation and its higher probability of cure had to be weighed against the greater hematologic and non-hematologic toxicity of the alternative procedures.

In the daughter we favored allogeneic transplantation despite normal cytogenetics because her AML was diagnosed as a first relapse after a chemotherapy-treated AML as a child more than 10 years previously. The mother was informed that allogeneic transplantation from a matched unrelated donor is not standard therapy in AML in first remission without high-risk cytogenetics. Both patients were informed on the extraordinary risks of refusing blood transfusions during the treatment of AML. Both patients gave their written informed consent.
The characteristics of the patients, their treatment and the follow-up are shown in Table 1. A complete remission was achieved after dose-reduced induction chemotherapy with daunorubicin (50 mg/m^2×2) and cytosine arabinoside (100 mg/m^2 for 5 days as a continuous infusion). Once HLA-identical unrelated donors had been identified for each patient we started conditioning therapy following this myeloablative conditioning regimen. Our experience parallels a recent report from Ballen et al. on 26 Jehovah’s Witnesses who successfully underwent autologous transplantation of peripheral blood stem cells without any blood product support.

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Key words: allogeneic hematopoietic stem cell transplantation, Jehovah’s Witness, treosulfan, myeloablative conditioning.

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