

# Clinical outcome in chronic myeloid leukemia after allogeneic hematopoietic stem cell transplantation: the experience of the Bone Marrow Transplantation Unit of FUNFARME/BRAZIL using FISH

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**ABSTRACT.** Investigation of the efficacy of allogeneic hematopoietic stem cell transplantation (allo-HSCT) in chronic myeloid leukemia patients is essential to predict prognosis and survival. In 20 patients treated at the Bone Marrow Transplantation Unit of São José do Rio Preto (São Paulo, Brazil), we used fluorescence *in situ* hybridization (FISH) to investigate the frequency of cells with BCR/ABL rearrangement at diagnosis and at

distinct intervals after allo-HSCT until complete cytogenetic remission (CCR). We investigated the disease-free survival, overall survival in 3 years and transplant-related mortality rates, too. Bone marrow samples were collected at 1, 2, 3, 4, 6, 12, and 24 months after transplantation and additional intervals as necessary. Success rate of the FISH analyses was 100%. CCR was achieved in 75% of the patients, within on average of 3.9 months; 45% patients showed CCR within 60 days after HSCT. After 3 years of the allo-HSCT, overall survival rate was 60%, disease-free survival was 50% and the transplant-related mortality rate was 40%. The study demonstrated that the BCR-ABL FISH assay is useful for follow-up of chronic myeloid leukemia patients after HSCT and that the clinical outcome parameters in our patient cohort were similar to those described for other bone marrow transplantation units.

**Key words:** Chronic myelogenous leukemia; Disease-free survival; BCR-ABL fusion; Stem cell transplantation; Cytogenetic remission; Fluorescence *in situ* hybridization