

## **CONDITIONING REGIMEN WITH TREOSULFAN FOR RELAPSE OF HEMATOLOGICAL MALIGNANCY AFTER 2ND ALLOGENEIC TRANSPLANTATION – ONE CENTER EXPERIENCE**

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**Introduction:** There is no clearly proven benefit of 2nd allogeneic transplantation in the treatment of relapsed hematologic malignancy.

**Patients and methods:** This is retrospective analysis of all consecutive patients who underwent 2nd allogeneic transplantation at our institution during the years 2012-2023.

**Results:** We identified 32 patients (25 acute myeloid leukemia (AML), 7 acute lymphoblastic leukemia, 1 primary myelofibrosis, 1 atypical chronic myeloid leukemia and 1 chronic lymphocytic leukemia) who relapsed after the 1st allogeneic transplantation and underwent 2nd allogeneic transplantation. Median age was 47.5 (20-67 years), 27 males and 9 females. Alternative donor was used for 2nd transplantation in all patients (match 10/10 in 29 (81%), match 9/10 in 7 (19%)). 19/36 patients were in remission (53%) before second transplant. Sequential transplantation was performed in 16/36 patients (44%). Conditioning regimen was treosulfan 3x12 g/m<sup>2</sup>, fludarabine 4x40 mg/m<sup>2</sup> and Thymoglobulin Genzyme 6 mg/kg. Median time between 1st and 2nd transplantation was 460 days (120-4951 days) and median follow up after 2nd transplantation was 2263 days (38-4298 days). Relapse experienced 18/36 patients (50%). 9 patients died due to transplant complications (25%) (3x EBV PTLD, 2x GVHD, 1x HHV6 encephalitis, 3x sepsis). Median overall survival was 1.2 years (95% CI: 0.9-3.2), 2years survival was 41 % (AML 41 %) a 5 years survival was 31 % (AML 28 %).

**Conclusion:** 2nd allogeneic transplantation is feasible option as a salvage treatment for relapsed hematologic malignancy with acceptable long term outcome.