

# **AUTOLOGOUS AND ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION FOR SOLID TUMOR PATIENTS**

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**Objective:** The prognosis for many pediatric and adult patients with solid tumors that have metastasized at the time of diagnosis or have relapsed after therapy remains very poor. Hematopoietic Stem Cell Transplantation (HSCT) is one of the treatment modalities in this setting with a lack of efficacy of conventional chemotherapy and radiotherapy for majority of patients with metastatic cancers. We have performed Autologous and Allogeneic HSCT for the treatment of solid tumor patients in our center.

**Patients and Methods:** From March, 1991 through July, 2009, fifty-four patients with solid tumors received HSCT for 14 types of solid tumors. The median age of patients at the time of Transplantation was 21 years (age range=2-53). 33 patients (61%) were male, and 21 patients (39%) were female. The most common diseases were: 11 neuroblastoma patients, 8 Ewing sarcoma patients, 8 breast cancer patients, 7 testicular carcinoma patients, 5 germ cell tumor patients, 4 meduloblastoma patients, 3 renal cell carcinoma patients, 2 ovarian cancer patients. Other tumors were nasopharyngeal carcinoma, Wilm's tumor, pancreatoblastoma, rhabdomyosarcoma, soft tissue sarcoma of the kidney and bone sarcoma. 48 patients (89%) received Autologous and 6 patients (11%) received Allogeneic hematopoietic cells. 51 patients (95%) received peripheral blood and 3 patients (5%) received bone marrow as a graft source.

**Results:** At present, 41 out of 54 are still living. Transplant Related Mortality was 4%. The most common cause of death for the allogeneic patients (4 patients) was progressive disease with chronic GVHD (3 patients) and for the autologous patients, was progressive disease (6 patients). Two years overall and disease-free survivals were 64% and 60%, respectively (for the autologous patients overall and disease-free survivals were 78% and 68%, respectively).

**Conclusion:** It is too early to conclude that the HCT was an efficient treatment modality for solid tumors but our preliminary results and other studies show promising results for this method.

**Key Words:** Hematopoietic Stem Cell Transplantation, solid tumors