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Evaluation of Solubl HLA-G and Cytokine Levels in Children with Acute Leukemia Undergoing Allogeneic Stem Cell Transplantation

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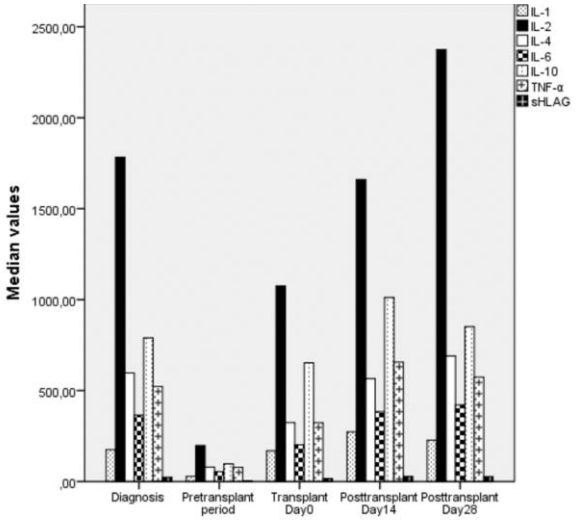
Introduction

Statement: There are few studies about cytokines and sHLA-G levels in patients with acute leukemia undergoing allogeneic stem cell transplantation (allo-SCT). We aimed to investigate the role of cytokines and sHLA-G levels measured at five different time points in children with acute leukemia undergoing allo-SCT. Methodology: A total of 41 patients with acute leukemia were recruited in this study. Among them, 26 consecutive patients were examined during the diagnosis of acute leukemia and in the remission period before transplantation (PreTx). The remaining 15 patients were included on the day of transplantation (Tx0). A total of 41 patients with acute leukemia were also examined on the 14th (PostTx14) and 28th (PostTx28) days after transplantation. Serum levels of pro-inflammatory (IL-1, IL-2, IL-6, TNF-α), anti-inflammatory (IL-4, IL-10) cytokines and sHLA-G were measured by ELISA (Bioassay Technology, China). Findings: The median cytokine and sHLA-G levels in leukemia diagnosis and post-transplantation periods (Tx0, PostTx14, PostTx28) were found to be significantly higher than the cytokine and sHLA-G levels in the pretransplantation period ($p<0.05$). Serum IL-1, IL-4, IL-10, and sHLA-G levels at diagnosis were significantly higher in children with relapse ALL than in children without relapse ALL ($p<0.05$). Compared with patients



Recent Publications

1. dos Santos Almeida R, et al (2018) Cytokines and sHLA-G levels in bone marrow stroma and their association with the survival rate of patients exhibiting childhood T ALL. Cytokine 102:94-101.
2. Mazur B, et al (2004) Concentration of IL-2, IL-6, IL-8, IL-10 and TNF-alpha in children with ALL after cessation of chemotherapy. Hematology Oncology 22:27-34.
3. Wu S, et al (2005) Cytokine/cytokine receptor gene expression in childhood ALL.correlation of expression and clinical outcome at first disease recurrence. Cancer 103:1054-63.
4. Choi SW, et al (2008) Change in plasma TNF receptor 1 levels in the first week after myeloablative allogeneic transplantation correlates with severity and incidence of GVHD and survival.Blood
112: 1539-42.
5. Cavet J, et al (1999) Recipient TNF-alpha and IL-10 gene polymorphisms associate with early mortality and acute GVHD disease severity in HLA-matched sibling BMTs. Blood 94:3941-6.

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