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Cytomegalovirus replication and outcome of patients with B-cell lymphoma undergoing allogeneic hematopoietic stem cell transplantation

Jacopo Mariotti
Istituto Nazionale dei Tumori/Ospedale San Paolo, Italy

This lecture will address the debated role of cytomegalovirus (CMV) replication for the outcome of patients with B-cell lymphomas undergoing allogeneic hematopoietic stem cell transplantation (HSCT). CMV replication can cause multiorgan disease, is usually associated with acute or chronic graft-versus-host-disease (GVHD), suppression of graft hemopoiesis and immunosuppression, and eventually results in higher non-relapse mortality (NRM). However, it was recently reported that post-transplant CMV replication was associated with a reduced risk of relapse for patients with acute myeloid leukemia. We therefore investigated the role of CMV replication in a retrospective cohort, from seven different Italian institutions, of 200 patients with B-cell lymphomas and transplanted with a similar conditioning regimen comprising the association of thiotepa and cyclophosphamide. In univariate analysis we found that CMV replication was associated with a reduced risk of lymphoma relapse especially for patients transplanted form a HLA identical sibling and with a disease in complete remission post-transplant. Multivariate analysis showed a more complex role for CMV replication that substantially influenced the NRM rate. This lecture will focus also on recent findings of different subsets of the immune-system activated by CMV replication and that might be involved in the reduced relapse rate of lymphoma patients. In particular the lecture will focus on NK and gamma-delta T cells and will propose some pre-clinical mouse models to investigate the potential connection between CMV replication and graft versus lymphoma (GVL) effect.

Biography

Jacopo Mariotti has followed the field of allogeneic hematopoietic stem cell transplantation (HSCT) since 2002. He spent 5 years at the National Cancer Institute in Bethesda to study pre-clinical mouse model of allogeneic HSCT focusing in particular on the problem of graft rejection and graft versus host disease and on the role of the immune-system as testified by his recent publications on Blood and Immunity. He is now back in Italy where he continues both his clinical and experimental activity supported by grants funded by the European Committee and by the Italian cancer society.

Jacopo.Mariotti@istitutotumori.mi.it