Flow Cytometric Detection Of B-cell Membrane Markers CD5, CD11c, CD20, CD38 And CD49d May Predict Outcome In Chronic Lymphocytic Leukemia And Non-Hodgkin Lymphoma

Giudice V¹, Rocco M¹, Villani G¹, Sessa M¹, Selleri C¹

¹Hematology and Hematopoietic Stem Cell Transplant Center, Department of Medicine and Surgery, University of Salerno, Baronissi, Italy (cselleri@unisa.it)

Flow cytometric detection of several B-cell membrane markers is becoming increasingly important as prognostic factor in Chronic Lymphocytic Leukemia (CLL) and non-Hodgkin Lymphoma (NHL). High expression of CD5 and CD20 has been reported to predict favourable outcome, conversely high expression of CD38 and CD49d has been associated with poor prognosis as well as the CD11c aberrant expression. We combined these five selected antigens in a new prognostic index, and defined as favorable (FP) or unfavorable (UP) phenotype an immunophenotypic score \(<2\) or \(>2\), respectively.

We evaluated, for this immunophenotypic score, 46 patients (M/F: 25/21; median age: 76 years, range 41-89) with CLL (n=34) or low-grade NHL (n=12). Twenty-two CLL patients (64.7%) showed FP; according to Rai staging-system, 16 of them (72.7%) were in early-stage disease. Six patients with FP received standard CLL chemotherapy, and 67% of them were chemosensitive. Twelve CLL patients (35.3%) exhibited UP, uniformly distributed in all disease stages; no one was chemosensitive. Six NHL patients (50%) showed FP with a favourable response rate (complete remission, CR, and partial remission, PR) of 100%; the others with UP were in advanced-stage of disease and not attained the criteria needed for a CR or PR.

Our preliminary data suggest that this prognostic score based on CD5, CD11C, CD20, CD38 and CD49d categorize unfavourable phenotype independently from Rai’s stages and may identify patients with poor prognosis. These results require further validation in prospective larger studies and may be an additional tool for routine workup of CLL and NHL patients.