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CD49d and CD26 are independent prognostic markers for disease progression in patients with chronic lymphocytic leukemia

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Objective: CLL is characterized by extremely variable clinical course. Several prognostic factors can predict disease progression and therapeutic outcomes in those patients. The aim of the present study was to evaluate the use of CD49d and CD26 as independent prognostic markers in CLL patients.

Methods: The present study measured surface expression of CD49d and CD26 by three-color flow cytometry in a series of 103 previously untreated CLL patients. We evaluated the prognostic role of CD49d and CD26 to predict the risk of lymphocyte doubling, disease progression and overall survival.

Results: We confirmed that CD49d and CD26 were significant predictors of lymphocyte doubling ($P < 0.001$ for both markers) and disease progression ($P < 0.001$ for both markers) but insignificant for overall survival ($P = 0.303$ and 0.519 respectively). Furthermore, multivariate analysis between clinical parameters and flow cytometry markers revealed that CD49d and CD26 are independent prognostic markers for lymphocyte doubling (HR=1.487 $P = 0.007$ and HR=2.248, $P = 0.014$ respectively) and progression to a more advanced stage (HR=3.191, $P = 0.049$ and HR=7.887, $P = 0.003$). Also, concordant expression of both markers was found to improve their predictive power.

Discussion: Many studies reported that CD49d and CD26 combined analysis was found to improve their power to predict the risk of lymphocyte doubling and disease progression.

Conclusion: CD49d and CD26 have independent prognostic value and we suggest its use as a part of routine panel for prognostic stratification of CLL at diagnosis.

Biography

Lamya Ibrahim is currently working as an Assistant Professor of Hematology and Clinical Pathology at Clinical Pathology Department of Mansoura University, Egypt. She has completed her MBBCH (Medical Bachelors and Bachelors of Chirurgia) in Medicine and Surgery on November 1997 from Mansoura University and completed her MD in Clinical Pathology (Hematology) on topic "Application of flow cytometry in detection of platelet antibodies" on March 2010 from Mansoura University.

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