

## The utility of CD38 as a prognostic factor in patients with chronic lymphocytic leukemia

Mamdoub Haggag<sup>1</sup>; Neemat Kassem<sup>2</sup>; Mohsen Mokhtar<sup>1</sup>; Raafat Abdel Malek<sup>1</sup>; Rania Khalifa<sup>2</sup>

(1) Department of Clinical Oncology, Kasr Al-Aini, School of Medicine; Cairo University, Egypt

(2) Department of Clinical Pathology, Kasr Al-Aini, School of Medicine; Cairo University, Egypt

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### Abstract

The current clinical staging systems for chronic lymphocytic leukemia (CLL) failed to predict which patients will experience an indolent or an aggressive course. Therefore several biological parameters need to be added to provide an insight into the prognosis of each patient and thus determine individualized treatment strategies.

**Purpose:** To estimate the applicability and predictive value of CD38 regarding clinical outcome in patients with CLL.

**Patients and Methods:** This study analyzed CD38 expression by flow cytometry in thirty newly diagnosed CLL patients and associated their expression with other prognostic factors including certain cytogenetic abnormalities (analyzed by FISH).

**Results:** Fifteen (50%) patients showed high expression of CD38 above 30% with median of 65.5% (range: 40%-88.3%). High CD38+ B-cell percentages were significantly associated with unfavorable prognostic factors of CLL including male gender, high risk Rai stage, diffuse pattern of bone marrow infiltration, and high levels of LDH ( $p=0.01, 0.02, 0.02$  and  $0.04$  respectively). No significant differences were detected regarding trisomy 12 and del 13q14 between the CD38-negative patients and the CD38-positive ones.

**Conclusion:** High percentages of CD38 ( $>30\%$ ) identified a subgroup of patients with aggressive CLL at diagnosis. Therefore this study strongly suggests that analysis of CD38 surface antigen might be added to the current staging systems of CLL being a valuable prognostic parameter that is easily assessed in clinical laboratories.