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Evaluation of the potential of *interleukin-9* expression as a prognostic factor for chronic lymphocytic leukemia in a cohort of Egyptian patients

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Chronic lymphocytic leukemia (CLL) is a common lymphoid malignancy that has a highly variable clinical course. Genomic features as zeta-chain-associated protein kinase 70 (ZAP70) expressions and CD38 expression provide further differentiation in disease prognosis. Extensive studies have confirmed the oncogenic activities of *IL-9* in lymphoma. The aim of the current study was to investigate the contribution of *IL-9* expression to the pathogenesis of CLL and its correlation to other prognostic parameters. This study was conducted on 80 patients during diagnosis with CLL and 80 healthy controls. Using real time polymerase chain reaction and enzyme-linked-immunosorbant-assay (ELISA), *IL-9* mRNA expression and its serum levels were compared between patients and controls. They were both correlated with other prognostic factors. There was an overexpression of *IL-9* in CLL patients that correlated with modified Rai staging, ZAP70, CD38 and all hallmarks of an active and aggressive disease. The correlation between *IL-9* up-regulation and patient characteristics provided direct clinical evidence for its contribution to the pathogenesis of CLL. In conclusion, significantly higher expression of *IL-9* measured at both the mRNA and the protein levels in patients with CLL that correlates with more complex course of the disease and worse prognosis may allow one to speculate its importance in the pathogenesis of the disease and its possible impact on prognosis.

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