

The Aims of the study: To determine the immunohistochemical expression of VEGF in CLL patients and its relation to laboratory and clinical parameters and its prognostic role in those patients. **Patients and methods:** This study was carried out during a period of 5 months from January 2011 to May 2011 including 40 cases of CLL (27 males and 13 females), randomly collected from the teaching laboratories in Medical City of Baghdad. Clinical information were collected with re-evaluation of complete blood counts, peripheral blood smear, bone marrow aspiration and bone marrow biopsy. BM biopsy paraffin embedded blocks subjected to the immunohistochemical method using the LSAB technique. Monoclonal Mouse Anti-Human VEGF was used as primary antibody for the detection of VEGF protein.

Results: The age of the patients ranged between 38-74 years with a mean of 57 years, including 27 males and 13 females of 2.1:1 M: F ratio. The most common clinical presentations of CLL patients were lymphadenopathy as seen in 70% of cases. The mean complete blood counts were PCV 34.5%; platelets count $134 \times 10^9/L$ and WBC count $105 \times 10^9/L$. Bone marrow findings at diagnosis included mean marrow lymphocytes of 86.0 % of all nucleated cells with diffuse pattern 64%, mixed 19%, interstitial 11% and focal 6% of marrow involvement. According to modified Rai staging system; 60% of patients were in high risk group, 27.5% in intermediate group and 12.5% at low risk group. VEGF was expressed in 45% of patient with CLL showing nuclear and/or cytoplasmic expression. The VEGF expression showed statistically significant correlation with PCV% and platelets counts, while no such correlation found with other complete blood counts and morphology of blood film. Bone marrow involvement pattern showed statistically significant correlation with VEGF expression, but not with other bone marrow findings. The VEGF expression showed no statistically significant correlation with any of clinical presentation of CLL patient, but significant correlation with Modified Rai staging system.

Conclusions: VEGF was expressed in 45% of CLL patients with statistically significant association with laboratory findings of advance disease while had no association with clinical parameters of patients. VEGF expression might have role in determining advance stage of disease and prognostic significance in CLL patients and can be considered as an informative and useful tool for assessing disease activity.