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Evaluation of some biochemical markers as prognostic factors in malignant lymphoma

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Non-Hodgkin lymphoma (NHL) is one of the most important malignant diseases worldwide. Cytokines may contribute to the clinical and histopathological alterations of the disease, while CD44, the lymphocyte homing receptor, is a putative determinant of lymphoma dissemination. To assess their value in NHL, the levels of TNF-alpha, IL-2 and sCD44 were measured in patients with different stages of NHL and the relation between these levels and tumor burden, presence of B symptoms and other prognostic criteria of the disease was evaluated. Fifty-two patients with NHL before administration of treatment as well as 20 ages- and gender-matched controls were enrolled in this study. Clinical and laboratory assessment was done for the studied patients and the levels of TNF-alpha, IL-2 and sCD44 were estimated by enzyme immunoassay. Laboratory assessment included measurement of C reactive protein (CRP), lactate dehydrogenase (LDH) and albumin. LDH and CRP levels were more significantly higher, while albumin level was significantly lower among patients with stage IV as compared to that of patients with stages I/II or III. The levels of TNF-alpha, IL-2 and sCD44 were significantly higher in NHL patients than in controls. The levels of both TNF-alpha and IL-2 were positively correlated with LDH and CRP and negatively correlated with albumin. However, TNF-alpha, but not IL-2, was negatively correlated with hemoglobin (HB). The level of sCD44 was negatively correlated with both albumin and HB and positively correlated with CRP. There was significant positive correlation between the levels of TNF-alpha, IL-2 and sCD44. There was a significant association between the levels of both TNF-alpha and sCD44 and the presence of B symptoms. In conclusion, the occurrence of B symptoms in NHL may be attributed, at least in part, to high level of TNF-alpha. The increased levels of TNF-alpha IL-2 and sCD44 are associated with high tumor burden and poor prognostic criteria and it is suggest that they can be used as prognostic markers in NHL.

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