

May 28-29, 2018
London, UK

J Healthc Commun 2018, Volume 3
DOI: 10.4172/2472-1654-C1-006

OVERVIEW OF ANGIOGENESIS IN UPPER EGYPT NON-HODGKIN'S LYMPHOMA PATIENTS

Marwa Ismail Abdelgawad, Ebtessam Elgezawy, Samy Elgizawy, Mohamed Zaineldeen and Hanan Sharaf El-deen Mohammed

Assiut University, Egypt

Background: Lymphomas are heterogenous group of lymphoid disorders that have in common, clonal expansion of malignant lymphocytes. Angiogenesis is important in the proliferation of hematopoietic neoplasms. Vascular endothelial growth factor (VEGF) plays an important role in the initiation of angiogenesis. Moreover, lymphoma progression may be enhanced by angiogenesis. Physiologically, angiogenesis helps in regulation of reproduction and wound healing, but the unregulated angiogenesis may result in tumor growth as the growing tumor needs an extensive network of capillaries to provide nutrients and oxygen. Angiogenesis is a prerequisite for growth of tumors, whether solid or liquid.

Aim: In the current study, we determine the serum levels of some known angiogenic stimulators as vascular endothelial growth factor (VEGF), copper and nitric oxide and serum level of zinc as one of the angiogenic inhibitors and determine copper/zinc ratio in newly diagnosed and relapsed patients with on-Hodgkin lymphoma (NHL) to study the significance of the previous factors in relation to disease progression and staging.

Materials & Methods: Serum levels of VEGF, nitric oxide, copper, zinc and copper/zinc ratio were determined in 114 patients of NHL, classified into four groups according to the disease stage investigated before the start of chemotherapy and 40 healthy controls.

Results: Patients in the 1st group (stage I and II) showed significant elevation in serum levels of VEGF, copper and insignificant changes occurred in serum levels of zinc, nitric oxide and in copper/zinc ratio in comparison with the control group. On the other hand, patients in the 2nd group (stage III) and 3rd group (stage IV) showed a highly significant increase in serum levels of copper and copper/zinc ratio; while, insignificant changes occurred in serum levels of VEGF and nitric oxide. Conversely, a highly significant decrease occurred in serum levels of zinc in 2nd group only. Patients in the 4th group (relapsed cases) showed highly significant increase in serum levels of copper, significant increase in serum levels of VEGF and in copper/zinc ratio, while insignificant changes occurred in serum levels of zinc, and nitric oxide. The comparison between different patient groups revealed no significant differences in all special investigations, except for zinc where its level was significantly lower in the 2nd group than in the 1st group, and for copper and copper/zinc ratio; there were significant rise of each in 4th group in comparison to 1st group.

Conclusion: Serum VEGF and copper levels play an important role in early detection of NHL as it increased significantly in early stages. The highest levels were found in advanced cases together with low zinc level suggesting their role in follow-up of NHL together with consideration of copper/zinc ratio while limited role of nitric oxide was observed.

esmailmarwa@yahoo.com