

Serum Vascular Endothelial Growth Factor in Non-Small Cell Lung Cancer

Maha Yahia¹, M, Rabab Gaafar¹, MD, Osman Mansour¹, MD, Basma Elgamal², MD, Nelly Aly Eldin³, MD.

(1) Department of Medical Oncology, National Cancer Institute, Cairo University, Cairo, Egypt

(2) Department of Clinical Pathology, National Cancer Institute, Cairo University, Cairo, Egypt

(3). Department of Epidemiology and Statistics, National Cancer Institute, Cairo University, Cairo, Egypt

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Background and Aim

Vascular endothelial growth factor (VEGF) is a potent angiogenic peptide expressed in a wide variety of tumors, and it stimulates angiogenesis and increases vascular permeability. Active angiogenesis of the tumor is a major contributor to the high metastatic potential of NSCLC.

Materials and Methods

In the period between Jun 2007 and Aug 2008, levels of VEGF were determined by ELISA in serum of 50 patients with NSCLC presented to medical oncology department, NCI, Cairo. In addition ten age and sex matched normal subjects were used as a control group. Correlation between VEGF at the time of sample withdrawal and different clinico-pathological parameters (Gender, Age, Performance Status, Pathological subtype, Stage of the disease, Platelet counts) and progression free survival of patients was done.

Results

The median value of serum VEGF 667.50 pg/ml. A significant difference between the values of VEGF in patients and healthy controls ($p < 0.001$) was confirmed with a best statistical cut-off of 100 pg/ml (sensitivity = 94 %, specificity = 100 %). There was no statistically significant difference in the clinicopathological parameters including age, gender, histological type, stage, performance status and platelet count of the patients with NSCLC and VEGF. Patients with higher levels of VEGF had a lower median progression free survival compared to those with lower levels, yet this difference did not reach statistical significance (5 months vs. 7 months respectively; $p = 0.2$).

Conclusion

The results of this study showed that serum VEGF levels were higher in NSCLC patients. However, it failed to correlate with different clinicopathological parameters which may be attributable to small sample size. Further research is still needed for the complete understanding of the exact role of VEGF in NSCLC.