International Conference 'Advances in Pneumology'
Bonn, 17-18 June 2011

SVEGF R1 AND TIE-2 LEVELS DURING CHEMOTHERAPY OF LUNG CANCER PATIENTS

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Angiogenesis plays important role in tumour growth and development. Protein ligands and their receptor tyrosine kinases are crucial in tumour related angiogenesis. Ligand /receptor systems such as vascular endothelial growth factor (VEGF), and tyrosine kinase with immunoglobulin-like and epidermal growth factor homology domains (Tie) family play important role in this phenomenon. The aim of this study was to evaluate the concentration of soluble receptor of VEGF (sVEGF R1) and Tie-2 domain in plasma of lung cancer patients before and after chemotherapy. Forty four lung cancer patient (11 with microcellular lung cancer (MC), 5 females and 6 males (mean age 60,2; 39-72 yrs), and 33 patients with non-microcellular lung cancer (N-MC), 6 females and 27 males mean age 61,9; 42-78) received 4 courses of chemotherapy. Control group consisted of 44 patients with COPD, 4 females and 40 males mean age 37,1; 18-60 yrs). Results: In all cases clinical partial response has been achieved. Both sVEGF R1 and Tie-2 concentrations were elevated in cancer group before treatment in comparison to control: sVEGF (pg/ml): 60,7 and 66,2 vs 48,8 and Tie-2 (ng/ml): 37,3 and 37,5 vs 30,7 in MC and N-MC vs C, respectively. Treatment decreased sVEGF R1 (pg/ml): 66.69 vs 11.6 ($p<0.05$) and 66.19 vs 14.39 ($p<0.001$), and Tie-2 (ng/ml): 37.25 vs 26.33 ($p<0.05$) and 37.45 vs 25.74 ($p<0.001$), in MC and N-MC, respectively. We conclude that VEGF and angiopoietins may play important role in lung cancer development and their receptors' concentrations may reflect patients' response to treatment.