

Bronchitis and COPD

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Concentrations of BCA-1(B Cell-Attracting chemokine 1) and Progranulin in BronchoAlveolar Lavage Fluid (BALF) of Patients with Advanced Non-Small Cell Lung Cancer: are they a new prognostic factor?

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Progranulin is a growth and survival factor implicated in tumorigenesis and drug resistance. Several studies showed that Progranulin was expressed in breast cancer tissue and inverse correlated with survival. B-Lymphocyte Chemoattractant (BLC), also known as B Cell-Attracting chemokine 1 (BCA-1), or CXCL13, is a member of the CXC subtype of the chemokine superfamily. BLC is critical for secondary lymphoid tissue development and navigation of lymphocytes within the microcompartments of these tissues. There are no data about concentrations of Progranulin and BCA-1 in BALF of NSCLC (Non-Small Cell Lung Cancer) patients.

To study this issue, we measured BALF (Elisa) levels of Progranulin and BCA-1 in 46 NSCLC patients (before chemotherapy) and 15 healthy subjects. Both Progranulin and BCA-1 concentrations were elevated in BALF of NSCLC group compared with control [Progranulin: 61.4 (1.6-384) vs 6.53 (0.59-12.9) ng/ml, $p=0.001$; BCA-1: 30.78 (24.3-70.82) vs 15.39 (13.33-19.51) pg/ml, $p=0.0001$). Receiver-operating characteristic (ROC) curves were applied to find the cut-off the BALF levels of Progranulin and BCA-1 (NSCLC vs Healthy: Progranulin =6.53 ng/ml, BCA-1 =15.39 pg/ml). We did not find any correlation between the BALF levels of Progranulin, BCA-1, and the stage of tumor or treatment response (prospectively). There was a correlation between the BALF level of Progranulin and time to tumor progression ($r=-0.406$, $p=0.04$). In addition, a higher BALF levels of BCA-1 in patients were linked with shorter overall survival. We conclude that Progranulin and BCA-1 in BALF of NSCLC patients before chemotherapy may be a prognostic of cancer progression.