European Respiratory Society
Annual Congress 2012

Abstract Group: 11.1. Lung Cancer
Keyword 1: Lung cancer / Oncology **Keyword 2:** Inflammation **Keyword 3:** Breath test

Title: Correlatin between PET scan and cytokine in non-small cell lung cancer (NSCLC)

Dr. Beatrice 19460 Culla bea_culla@hotmail.com MD [1], Prof. Pierluigi 19470 Filosso pierluigi.filosso@unito.it MD [3], Dr. Marta 19461 Morando marta.morando@live.it MD [2], Prof. Caterina 19463 Bucca caterina.bucca@unito.it MD [4], Prof. Giovanni 19464 Rolla giovanni.rolla@unito.it MD [2], Dr. Riccardo 19469 Cristofori riccardo.cristofori@molinette.piemonte.it MD [3], Dr. Marta 19462 Malandra mirtilla8@hotmail.it MD [2], Dr. Arianna 24309 Vaudano vaudano.arianna@hotmail.it MD [4], Dr. Monica 24316 Boita monica.boita@libero.it MD [2] and Prof. Luisa 19472 Brussino luisa.brussino@unito.it MD [2]. [1] Medical and Surgical Disciplines, University of Turin, Italy, 10126 ; [2] Biomedical Science and Human Oncology, University of Turin, Italy, 10126 ; [3] Thoracic Surgery, University of Turin, Italy, 10126 and [4] Clinical Phathophysiology, University of Turin, Italy, 10126 .

Body: Background: Systemic and local inflammatory microenvironment may be an important contributor to morbidity and mortality associated with NSCLC. Exhaled breath condensate(EBC) is a non-invasive method to collect airway lining fluid for assessing lung inflammation. Interleukin-6 (IL-6) is associated with poor prognosis and correlates with neoplastic cachexia and with stage of disease. PET scan has been included in standard staging workup and the standardized uptake value(SUV) of PET-scan has been shown to correlate with poor prognosis in lung cancer. Aim and Objective: to assess the correlations between serum and EBC IL-6 levels and SUV in patients with NSCLC. Methods: Fifteen consecutive patients (12 males, mean age 64 years, range 39-82) receiving a curative resection for NSCLC were enrolled. All the patients underwent PET scan and IL-6 values measurement both in serum and EBC. Results: PET scan was positive in all the patients with a mean SUV value 10.64 ± 4.28(range: 6-18.8). Mean IL-6 value was 1.05 pg/ml $\pm$ 1.27 in serum and 0.29 pg/ml $\pm$ 0.09 in EBC. Significant correlation between SUV and IL-6 levels both in serum and in EBC was found (r= $p<0.001$ and r = $p<0.05$ respectively)

Conclusions: the observed relationship suggest that lung and systemic inflammation is proportional to tumor metabolic activity.