

European Respiratory Society Annual Congress 2012

Abstract Number: 5164

Publication Number: P304

Abstract Group: 5.2. Monitoring Airway Disease

Keyword 1: Asthma - diagnosis **Keyword 2:** Allergy **Keyword 3:** Asthma - mechanism

Title: Short-term and long-term reproducibility of non-invasive clinical and inflammatory parameters in asthma

Matthias 20119 Jung matthias.jung@unimedizin-mainz.de ¹, Dr. Stephanie 20120 Korn Stephanie.Korn@unimedizin-mainz.de MD ¹, Dr. Marisa 20121 Hübner marisa.huebner@unimedizin-mainz.de MD ¹, Prof. Christian 20122 Taube c.taube@lumc.nl MD ² and Prof. Roland 20123 Buhl roland.buhl@unimedizin-mainz.de MD ¹. ¹ Pulmonary Dept., Mainz University Hospital, Mainz, Germany and ² Pulmonary Dept., Leiden University Medical Center, Leiden, Netherlands .

Body: Several non-invasive parameters have been proposed to monitor bronchial inflammation in asthma. Aim of this study was to assess the reproducibility of established parameters in asthma within 7 days and after 6 months. In 83 medically treated asthma patients (51 female, mean±SEM 44±1.5 yrs, FEV1 % pred. 85±2, 20 pts. controlled, 30 partly controlled, 33 uncontrolled) with a constant level of asthma control (GINA) and unchanged medication the following tests were performed at baseline, after 7 days (n=76) and after 6 months (n=37): asthma control questionnaire (ACQ-5), exhaled nitric oxide (eNO), lung function tests, methacholine provocation (PC20), measurement of total serum IgE and sputum induction. Within 7 days ACQ-5, eNO, FEV1 and total IgE were stable with a Cronbach's alpha between 0.946 (eNO) and 0.996 (ACQ5) and intraclass correlation coefficients between 0.898 (eNO) and 0.993 (IgE). Reproducibility of PC20 and sputum eosinophilia was low. In patients with a stable level of asthma control ACQ-5 (mean±SEM baseline – month 6: 0.1±0.1), eNO (0.1±2.3ppb), FEV1 (0.02±0.04L) and total IgE (13.6±13.7 IU/ml) were equally stable after 6 months. Reproducibility was good with Cronbach's alpha [intraclass correlation coefficients] between 0.873 [0.775] (ACQ-5) and 0.997 [0.994] (IgE). In patients with a constant level of asthma control and unchanged medical treatment clinical parameters are reproducible in a short- and long-term interval.