European Respiratory Society
Annual Congress 2012

Abstract Number: 3280
Publication Number: P2314

Abstract Group: 5.3. Allergy and Immunology
Keyword 1: Asthma - diagnosis **Keyword 2:** Biomarkers **Keyword 3:** Immunology

Title: Relevance of measurement of serum periostin for diagnosing bronchial asthma and estimating its lung function abnormalities

Dr. Kenya 14887 Kohyama kenya@dokkyomed.ac.jp MD [1], Prof. Dr Kenji 14888 Izuhara kizuhara@cc.saga-u.ac.jp MD [2], Dr. Akemi 14889 Kohyama tamaak@dokkyomed.ac.jp MD [1], Dr. Kentaro 14890 Nakano nakanokentaro@me.com MD [1], Dr. Ryosuke 14891 Souma r-souma@dokkyomed.ac.jp MD [1], Dr. Kiyokazu 14899 Kikuchi kkikuchi@dokkyomed.ac.jp MD [1], Dr. Hideyuki 14904 Satoh h-satoh@dokkyomed.ac.jp MD [1], Dr. Takenori 20049 Okada take-okada@mtj.biglobe.ne.jp MD [1], Dr. Naoto 14907 Fueki nao100fue@yahoo.co.jp MD [1], Dr. Shoicihiro 20041 Ohta kizuhara@cc.saga-u.ac.jp MD [3], Mr. Junya 20047 Ono junya.ono@shino-test.co.jp [4], Mr. Yoshinori 20048 Azuma yoshinori.azuma@shino-test.co.jp [4] and Prof. Dr Hironori 14919 Sagara h-sagara@dokkyomed.ac.jp MD [1]. [1] Department of Respiratory Medicine, Dokkyo Medical University Koshigaya Hospital, Koshigaya, Saitama, Japan, 343-8555 ; [2] Division of Medical Biochemistry, Department of Biomolecular Sciences, Saga Medical School, Saga, Japan, 849-8501 ; [3] Department of Clinical Medicine, Saga Medical School, Saga, Japan, 849-8501 and [4] Research and Development Section, Shino-test Corporation, Sagamihara, Kanagawa, Japan, 252-0331 .

Body: Bronchial asthma is diagnosed by combination of presence of characteristic symptoms and measurement of reversibility of lung function abnormalities. Non-invasive markers such as levels of exhaled nitric oxide (FeNO) and sputum eosinophilia have potential usefulness for diagnosis of bronchial asthma and determination of optimal treatment; however, these biomarkers contain several problems in specificity in diseases. Periostin, an extracellular matrix protein downstream of IL-4/IL-13 signals, has emerged as a novel biomarker for bronchial asthma. Particularly, it has been recently shown that efficacy of anti-IL-13 antibody can be predicted using serum periostin levels in steroid-resistant asthma patients. However, it still remains undetermined how measurement of serum periostin level is relevant for diagnosing bronchial asthma. The study group comprised 37 patients with asthma and 30 healthy subjects. In both groups, serum concentrations of SCCA1, SCCA2, periostin (SS18A SS17B) were measured. In asthmatic patients, serum IgE concentrations, eosinophil counts, and exhaled NO levels were also measured. Serum concentrations of periostin (SS18A SS17B) was significantly higher in the asthmatic patients than in the control subjects. Serum concentrations of both types of periostin strongly correlated with eosinophil counts and exhaled NO levels. In contrast, serum SCCA concentrations did not differ between the control subjects and asthmatic patients or significantly correlate with any variable studied.Our results suggested that serum periostin concentrations may be a significant diagnostic marker of bronchial asthma that correlates with eosinophil counts.