

European Respiratory Society Annual Congress 2013

Abstract Number: 1716

Publication Number: P5116

Abstract Group: 1.5. Diffuse Parenchymal Lung Disease

Keyword 1: Interstitial lung disease (connective tissue disease) **Keyword 2:** Biomarkers **Keyword 3:** Interstitial lung disease

Title: B cell activating factor belonging to the TNF family might be a useful biomarker in interstitial lung diseases associated with connective tissue diseases

Tstuomu 1670 Hamada k5064132@kadai.jp MD ¹, Tomohiro 1671 Kumamoto nikenjaya888@yahoo.co.jp MD ¹, Ms. Asami 10006 Harumatsu asaminyt@m3.kufm.kagoshima-u.ac.jp ¹, Keiko 10007 Mizuno keim@m.kufm.kagoshima-u.ac.jp MD ¹, Takuya 10008 Samukawa samukawa@m3.kufm.kagoshima-u.ac.jp MD ¹, Ikkou 10014 Higashimoto ikkou@m2.kufm.kagoshima-u.ac.jp MD ¹, Masaki 10016 Watanabe maswata@mail.goo.ne.jp MD ¹ and Prof. Hiromasa 10017 Inoue inoue-pulm@umin.net MD ¹. ¹ Pulmonary Medicine Advanced Therapeutics Course Cardiovascular and Respiratory Disorders, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan, 890-8520 .

Body: Background; B cell-activating factor belonging to the TNF family (BAFF) is a vital homeostatic cytokine for B cells and has been associated with autoimmune disease. We have shown that the elevation of serum BAFF in patients with interstitial lung disease associated with connective tissue disease (CTD-ILD). However, BAFF has not been confirmed as a disease severity for CTD-ILD. Aim; The aim of this study was to investigate the potential of serum BAFF as a biomarker and to confirm its correlation with disease severity in patients with CTD-ILD. Methods; Sixty-seven patients with IIP (n=19), undifferentiated CTD-ILD (n=14), and CTD-ILD (n=34) who visited our institution were enrolled. Twenty-one healthy volunteers were included as a control group. Serum BAFF levels were measured by ELISA. Expression of BAFF in the lung was evaluated by immunohistochemistry. Results; Serum BAFF levels were significantly elevated in patients with CTD-ILD (2.2 ± 1.1 ng/ml) compared with IIP (1.1 ± 0.4 ng/ml, $p < 0.01$) and healthy subjects (6.8 ± 0.1 ng/ml, $p < 0.01$). We found an inverse relationship between serum BAFF level, FVC % predicted ($r = -0.40$, $p = 0.02$), and DLco % predicted ($r = -0.39$, $p = 0.04$) in patients with CTD-ILD. The results of receiver operating characteristic curve analysis showed that serum BAFF levels had sufficient specificity and sensitivity to distinguish CTD-ILD from IIP. High BAFF expression was detected in alveolar macrophages and epithelial cells in CTD-ILD patients. Conclusion: BAFF in serum might be a useful candidate biomarker with which to distinguish CTD-ILD from IIP.