

# European Respiratory Society Annual Congress 2013

**Abstract Number:** 514

**Publication Number:** P5129

**Abstract Group:** 1.5. Diffuse Parenchymal Lung Disease

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

**Keyword 3:** Biomarkers

**Title:** KL-6, SP-D and MMP-7 as serum biomarkers for early detection of interstitial lung diseases

Dr. Nobuhisa 3237 Ishikawa nobuhi@hiroshima-u.ac.jp MD <sup>1</sup>, Koji 3243 Yoshioka koji-4842@msd.biglobe.ne.jp MD <sup>1</sup>, Dr. Yasushi 3238 Horimasu yasushi17@hiroshima-u.ac.jp MD <sup>1</sup>, Dr. Hiroshi 3239 Iwamoto iwamotohiroshig@gmail.com MD <sup>1</sup>, Dr. Shinichiro 3240 Ohshimo ohshimos@hiroshima-u.ac.jp MD <sup>1</sup>, Dr. Noboru 3241 Hattori nhattori@hiroshima-u.ac.jp MD <sup>1</sup> and Prof. Nobuoki 3242 Kohno nokohno@hiroshima-u.ac.jp MD <sup>1</sup>. <sup>1</sup> Department of Molecular and Internal Medicine, Graduate School of Biomedical Sciences Hiroshima University, Hiroshima, Japan .

**Body:** Background: Since therapy with corticosteroids and/or immunosuppressants is largely ineffective for advanced stages of interstitial lung diseases (ILDs), early diagnosis of ILDs is of utmost importance. Recent clinical studies have suggested that Krebs von den lungen-6 (KL-6), surfactant proteins (SP), matrix metalloproteinase (MMP), and C-C motif chemokine ligand-18 (CCL-18) are potential serum biomarkers for ILDs. However, each of these biomarkers has been studied separately and the clinical significance of these biomarkers for early detection of ILDs has not been adequately evaluated. Aims: We aimed to determine whether serum levels of these biomarkers are of any diagnostic value in patients with early-stage ILDs. Methods: We collected the data of 55 patients with early-stage ILD who underwent surgical lung biopsy and 102 healthy controls. Serum levels of KL-6, SP-A, SP-D, MMP-1, MMP-7 and CCL-18 were measured in 55 patients with ILDs and 102 healthy controls. Results: The receiver operating characteristic curve analysis revealed that KL-6, SP-D and MMP-7 showed greater clinical significance than other biomarkers. The cut-off levels for these biomarkers that resulted in the highest diagnostic accuracy were determined. The sensitivity, specificity and diagnostic accuracy were 94.5%, 100% and 98.1% for KL-6; 69.1%, 86.3% and 80.3% for SP-A; 83.6%, 97.1% and 92.4 for SP-D; 58.2%, 37.3% and 44.6% for MMP-1; 87.3%, 97.1 and 93.6% for MMP-7; and 81.8%, 88.2% and 86.0% for CCL-18. Conclusion: KL-6, SP-D and MMP-7 may be the most useful biomarkers for ILDs even in the early stages of the disease and may greatly improve the currently employed diagnostic methods for ILD.