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Title: LSC 2013 abstract - Comparison of surfactant protein A in particles in exhaled air (PEx) and bronchoalveolar lavage

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Body: Introduction: Particles in exhaled air (PEx) are formed in the small airways during airway reopening after airway closure. Analysis of PEx offers noninvasive measurement of biomarkers from the respiratory tract lining fluid. Our objective was to investigate if SP-A and albumin in BAL are correlated to levels in PEx. Methods: Consecutive stable patients undergoing bronchoscopy one year after lung transplantation (n=11), or for investigation of pulmonary fibrosis (n=2) and healthy volunteers (n=4) were included. The relative amount of SP-A and albumin in PEx were calculated adjusting for particle mass. Results: There was no correlation between SP-A in PEx and SP-A in BAL, nor between albumin in PEx and BAL. SP-A was strongly correlated with albumin in PEx but in BAL there was a tendency towards a negative correlation. There was a trend for SP-A being higher and albumin lower in healthy controls compared with transplanted patients and those with IPF (SP-A: 2.5 vs. 2.1%, and albumin: 3.5 vs. 4.5%, respectively). Table1. Medians and range of relative concentrations of SP-A and albumin in PEx and concentrations in BAL

Conclusion: SP-A concentrations seem not to vary as much in PEx when compared to BAL, and average about half of the concentrations of albumin. There was no correlation between SP-A in PEx and BAL. This may reflect different origins of PEx and BAL, where PEx originates more strictly from the small airways. The dilution of SP-A in BAL is also an issue, and seem not to be overcome by adjusting for albumin levels.