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Title: Validity of serum surfactant protein D as a lung-specific biomarker in monitoring asthma, chronic obstructive pulmonary disease and chronic bronchitis in Lebanese patients: Preliminary results

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Body: Surfactant protein D (SP-D) is an oligomeric lung-derived lectin with important roles in innate host defence. Previous studies have suggested serum SP-D as a reliable biomarker for inflammatory lung diseases. Our objective was to validate for the first time in the Lebanese population, SP-D as a clinical biomarker for asthma, COPD and chronic bronchitis. In addition, we studied the correlation between SP-D level and the disease severity. A case-control study is being conducted in the Lebanese population. To date, 46 cases of asthma, 24 cases of COPD, 23 cases of chronic bronchitis patients and 46 controls have been analysed. Lung function measurements were performed by spirometry, a standardized questionnaire was filled and serum levels of SP-D, CRP and plasma fibrinogen levels were measured. The mean level of SP-D was significantly elevated in asthmatics (1394.26 ng.ml⁻¹; p = 0.023), in COPD patients (1507.24 ng.ml⁻¹; p = 0.013) and in chronic bronchitis patients (1477.27 ng.ml⁻¹; p = 0.007) when compared to controls (980.1 ng.ml⁻¹). Serum SP-D levels correlated significantly with the disease severity only in COPD (p = 0.007). Conversely, levels of CRP and fibrinogen did not correlate with disease severity. We conclude that SP-D could be used as a biomarker for asthma, COPD and chronic bronchitis and seems to be more specific than general systemic markers of inflammation, CRP and fibrinogen. The ongoing study should provide further information on the cut off values and/or absolute values of serum Sp-D reflecting the degree of inflammation in the investigated diseases.