GLYCOSAMINOGLYCANS QUANTITATIVE ANALYSIS FROM PLEURAL TUBERCULOSIS AND LUNG CANCER PLEURAL EFFUSIONS

Albuquerque, E.M.M.[1]; Cruz, A.K.M.[1]; Chavante, S.F.[1]; Mendes, A.[3]; Nader, H.B[3]; Albuquerque, P.R.[2]; Oliveira, F.W.[1]

[1]Depto. de Bioquímica, CB; [2]Depto de Medicina Integrada, CCS. UFRN, Natal-RN. [3]Escola Paulista de Medicina, UNIFESP, São Paulo-SP.

Pleural effusions usually result in a diagnostic dilemma. Pleural tuberculosis and lung cancer are pathologies that often give rise to exudates in humans. Biochemical parameters analyzed in exudates have limited efficiency for diagnostic separation of pleural tuberculosis and lung cancer. The objective of this study was to realize the quantitative analysis of the glycosaminoglycans content in pleural effusions and to assess their potential for discriminating between pleural tuberculosis and lung cancer. Pleural tuberculosis and lung cancer pleural fluid samples were collected by thoracocentesis. Glycosaminoglycans were extracted by proteolyses, trichloroacetic acid and precipitation with ethanol. These glycosaminoglycans were quantified for carbazole reaction and densitometry. Hyaluronan in pleural fluids was quantified by the sandwich fluorescent ELISA-like assay. The pleural tuberculosis samples showed a high total glycosaminoglycans concentration when compared to lung cancer. The average concentrations of hyaluronan for pleural tuberculosis and lung cancer were 30.7 ($\pm$ 10.64) ug/mL and 8.81 ($\pm$ 7.20) ug/mL, respectively. Hyaluronan and total glycosaminoglycans concentrations and ratio of the different glycosaminoglycans were able to separate pleural tuberculosis from lung cancer. Thus qualitative analysis of the glycosaminoglycans content may contribute for the diagnostic discrimination of pleural tuberculosis and lung cancer.

Key words: Key words: glycosaminoglycans, pleural effusions, quantitative analysis