Abstract: To determine the significance of proteases in interstitial lung diseases, we examined the activity of cathepsins, thrombin, and aminopeptidase in bronchoalveolar lavage (BAL) fluid from patients with these disorders. Significantly increased activities of cathepsin H and aminopeptidase were detected in BAL fluid from patients with idiopathic pulmonary fibrosis (IPF), cryptogenic organizing pneumonia (COP), chronic eosinophilic pneumonia (CEP) and hypersensitivity pneumonitis (HP). Significantly higher activity of cathepsin B was found in BAL fluid from patients with CEP. The activity of thrombin was significantly higher in patients with IPF and CEP. In patients with IPF, there were significant correlations between neutrophil number and the activity of cathepsin B, cathepsin H or aminopeptidase. In patients with COP and HP, the activity of the proteases was significantly higher in patients with higher number of lymphocytes than in those with lower number of lymphocytes. The present study suggests that the activity of the proteases is a useful marker in activity of the interstitial lung diseases, and may have a role in the pathogenesis of these disorders.

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Keywords: interstitial lung diseases, cathepsin H, cathepsin B, cathepsin G, thrombin, aminopeptidase
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BAL cell analysis

Activities of cathepsin H, cathepsin B and cathepsin G
Activities of thrombin and aminopeptidase

Comparison of protease activities in the BAL fluid with the number of BAL cells
Prokases in interstitial lung diseases

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