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Title: Clinical significance of hemosiderin-laden macrophages in bronchoalveolar lavage fluid of patients with idiopathic interstitial pneumonias

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Body: Introduction: Hemosiderin-laden macrophages (HLMs) in bronchoalveolar lavage(BAL) fluid (BALF) has been quantified for the diagnose of diffuse alveolar hemorrhage (DAH). However, the role of HLMs is not uncertain in patients with idiopathic interstitial pneumonias (IIPs). Aim: To know the role including prognostic significance of HLMs in bronchoalveolar lavage (BALF) in IIPs. Subjects: 265 patients were diagnosed as IIPs between January 2005 and February 2009 and HLMs were detected in 33 cases. 25 patients with assessable data were retrospectively analyzed. Methods: BAL was performed with three 50-ml-aliqouts of saline. Prussian blue stain was used to detect HLMs. HLMs in BALF were quantified by modified hemosiderin score (HS), which was originally described by Golde (BMJ 1975). IIPs were classified with pathological and/or radiological findings into idiopathic pulmonary fibrosis (IPF) and non-IPF. Results: The median age was 65 yrs (range 42-85). Follow-up period of 25 patients (male 22, female 3) was 1554 days (median, range 9-2826). The 15 patients were diagnosed with IPF, and 10 patients were diagnosed with non-IPF. Modified HS in severe IIPs were larger than that in mild IIPs (p<0.10). IIPs with acute exacerbation (AE) during follow-up period after BAL showed significantly larger modified HS than those without AE (p=0.001). Other clinical findings were not associated with modified HS. Conclusion: The number of HLMs in BALF may reflect clinical severity, AE and prognosis of IPF. Grant from National Ministry of Health, Labour, and Welfare, and National Hospital Organization.