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Title: Chemical and hard metal induced exogenous toxic alveolitis (ETA) (follow up 1,5 years)

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Body: Aim. To study the prognostic criteria for ETA. Methods. 44 patients with ETA, mean age 39,3±1,2 yrs were examined during 0,5-1-1,5 yrs. 77 % of patients were exposed to chemicals for 17,5±3,5 yrs, 23 % of patients - to hard metals for 11,4±3,6 yrs. X-ray, computer tomography (CT), complex lung function examination, were performed. All patients received prednisolone and plasmapheresis courses. The diagnosis was verified histologically by lung biopsy in 30 cases. Blood neutrophil phagocytic activity, spontaneous chemiluminescence (SpCl) and stimulated by formil peptide chemiluminescence (StCl) of blood neutrophils, BALF antioxidant activity (AOA) were examined. Results. The clinical and CT improvement was observed in 31 (70%) patients; stabilization of clinical status - in 7 (16 %) and deterioration – in 6 (14 %) patients. The analysis of X2 criteria, Kramer coefficient (C) confirmed the close connection of CT signs aggravation with exposure duration ($X^2 = 181,6$; $p < 0,05$; $C = 1,0$). The significant ($p < 0,05$) gradient of increasing VC, FEV1, DLCO was noted after 1 yr. of treatment. Morphological signs (neutrophil, lymphocyte infiltration, granuloma formation,) correlated with neutrophil phagocytic activity: $r = 0,47$; $p < 0,05$ for phagocyte number; $r = 0,5$; $p < 0,05$ for phagocyte index. CT signs of “ground glass”, infiltration correlated with decreased BALF AOA ($r = -0,74$) and “honeycombing” - with increased SpCl ($r = 1,0$), StCl ($r = 0,9$); $p < 0,05$ for all parameters. Conclusion. Protracted exposure to harmful factors, oxidative activity of blood neutrophils associated with decreased BALF AOA are poor prognostic criteria for ETA. Systemic steroids and plasmapheresis is the pathogenic therapy of this disease.