

COMPARISON OF INDUCED SPUTUM AND BRONCHOALVEOLAR LAVAGE FLUID CELL PROFILE DURING THE TREATMENT OF PULMONARY SARCOIDOSIS

R. M. Mróz, M. Korniluk, A. Stasiak-Barmuta, and E. Chyczewska

Pulmonary Department and Department of Pediatric Allergology, Bialystok Medical University, Bialystok, Poland; robmroz@wp.pl

Sarcoidosis is characterized by a diffuse alveolar inflammatory process, although bronchial airways are often involved. This study compares the cellular profiles of induced sputum (IS) and BAL in newly diagnosed sarcoidosis patients before and after 6 months prednisone therapy. We recruited 17 untreated patients with stage II pulmonary sarcoidosis. Sputum was induced with hypertonic saline solution in all individuals. Bronchoscopy was performed on a different occasion in all patients. Comparison between different samples showed significantly higher percentages of macrophages in BAL than in IS ($P < 0.05$), whereas the percentage of neutrophils was higher in IS compared with BAL ($P < 0.01$). The percentage of lymphocytes in IS was significantly lower than that in BAL ($P < 0.05$). Higher TCD4/CD8 ratio characterized BAL samples and lowered during the treatment (4.8 and 1.8; $P = 0.009$), IS: 3.5 and 2.0; $P = 0.019$, respectively. Also, a high percentage of TCD+HLA-DR+ cells characterized BAL samples (29.0 and 12.7) and was higher than in IS (13.0 and 9.0), before and after treatment, respectively. A positive BAL/IS correlation characterized T cell populations in regard to T CD4+ cells ($r = 0.59$), T CD8+ ($r = 0.34$), CD4/CD8 T cell index ($r = 0.66$) and T CD3+ HLA-DR+ ($r = 0.89$) cell population. This finding suggests that IS could be used as a valuable alternative to more conventional invasive techniques especially when used as additional treatment monitoring tool.