Clinical course of sarcoidosis in dependence on HLA-DRB1 allele frequencies, inflammatory markers, and the presence of M. tuberculosis DNA fragments.

BACKGROUND AND AIM: For sarcoidosis it is generally hypothesized that inherited factors and environmental antigens may contribute to pathogenesis. Since M. tuberculosis DNA was found in a significant percentage of sarcoidosis patients, we analyzed the relationship between HLA-DRB1 alleles, inflammatory markers and the presence of M. tuberculosis DNA in sarcoidosis and its influence on clinical course. METHODS: From 144 patients with sarcoidosis lung tissue, BAL and/or blood were investigated by means of PCR assays to detect an 123 bp multicopy element of M. tuberculosis DNA and HLA-DRB1 alleles, respectively. ACE was measured spectrophotometrically, sIL-2R by ELISA. Clinical data describing the disease course were available from 63 patients. RESULTS: The percentage of M. tuberculosis positive sarcoidosis patients was significantly increased in the chronic patients group compared to acute disease. The percentage of HLA-DRB1*03 positive patients was significantly higher in acute sarcoidosis, whereas in chronic disease the HLA-DRB1*11 positive patients were clearly over-represented. In addition, we found a highly significant correlation of HLA-DRB1*11 or -DRB1*15 alleles and/or the presence of M. tuberculosis DNA to a chronic disease course, whereas HLA-DRB1*03 or -DRB1*04 alleles combined with the absence of
M. tuberculosis DNA were associated with an acute sarcoidosis (p = 0.009). ACE and sIL2-R serum levels were significantly higher in M. tuberculosis positive sarcoidosis independent of the HLA-DRB1 specificity, but did not differ between acute and chronic disease course alone. CONCLUSIONS: The association between certain HLA-DR antigens, the presence of M. tuberculosis DNA and disease course indicates that specific antigens of M. tuberculosis may play a pathogenetic role in chronic sarcoidosis.

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