IMPAIRED VASCULAR FUNCTION IN SARCOIDOSIS PATIENTS

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Background: Common feature of sarcoidosis and atherosclerosis is a chronic systemic inflammatory reaction. Our hypothesis was that sarcoidosis may negatively influence the vessel status. Methods: 72 sarcoidosis patients and 15 matched controls were examined by an ultrasound-based speckle-tracking method to determine preatherosclerotic vascular alternations. To find potential factors which may have a deleterious impact on the arterial performance, different subgroups of sarcoidosis such as sarcoidosis with or without cortisone therapy, pulmonary sarcoidosis in early and advanced stages, pulmonary sarcoidosis alone or combined with extrapulmonary sarcoidosis and sarcoidosis with or without elevated blood levels of angiotensin converting enzyme (ACE)/ soluble interleukin 2 receptor (sIL-2R) were analyzed. Results: In a general collective of sarcoidosis patients circumferential strain (2.68±0.19%), circumferential strain rate (0.21±0.01 1/s) and radial displacement (0.10±0.01mm) were significantly decreased compared to the control (3.77±0.35%, 0.28±0.02 1/s, 0.14±0.02mm, respectively). Vascular strains were more impaired in patients with cortisone therapy, pulmonary sarcoidosis in stages III/IV and pulmonary sarcoidosis combined with extrapulmonary involvement. Levels of ACE/sIL-2R had no relevant influence on the angiological parameters. Conclusions: Sarcoidosis is associated with increased vascular stiffness. Cortisone therapy and advanced stages of pulmonary sarcoidosis with extrapulmonary manifestations may account for the impaired vascular function in this patient collective.