

Cardiorespiratory functions

Sarcoidosis is not Associated with Increased Atherosclerotic Plaque Burden but with Increased Pulse Wave Index

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Question: Sarcoidosis is a systemic granulomatous disease. Atherosclerosis is a chronic inflammatory vessel disease. The aim of our present study was to prove if sarcoidosis may be associated with an increased risk of atherosclerotic vessel changes.

Methods: Angiological analysis and blood tests were performed in 71 sarcoidosis patients and 12 matched controls in the present prospective cross-sectional study. Specifically, angiological measurements comprised ankle brachial index (ABI), central *pulse wave velocity* (cPWV), pulse wave index (PWI) and duplex sonography of central and peripheral arteries. Sarcoidosis activity markers (angiotensin converting enzyme, interleukin-2 receptor) and cardiovascular risk parameters such as cholesterol, lipoprotein(a), C-reactive protein, interleukin 6, fibrinogen, d-dimer and blood count were analyzed in blood.

Results: Angiological analysis of ABI, cPWV and plaque burden showed no relevant differences between the groups (1.1±0.02 vs. 1.1±0.02; 6.7±0.5 vs. 6.1±1.2; 53.7% vs. 54.5%, respectively). PWI was significantly higher in sarcoidosis patients (146.2±6.8) compared to controls (104.9±8.8), irrespectively of the activity of sarcoidosis and immunosuppressive medication. Except for increased lipoprotein(a) and d-dimer in sarcoidosis patients, levels of the remaining cardiovascular markers in blood were similar in both groups.

Conclusions: Sarcoidosis is associated with increased PWI which may indicate a very early stage of atherosclerosis.