SARCOIDOSIS VASCULITIS AND DIFFUSE LUNG DISEASES 2022; 39 (1); e2022037 DOI: 10.36141/svdld.v39i4.13372 

# Comment on: Atherogenic indices can predict atherosclerosis in patients with sarcoidosis

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To the Editor,

We read with great interest the article "Atherogenic indices can predict atherosclerosis in patients with sarcoidosis" (1) recently published on your journal.

In this study, authors described the possibility to assess subclinical atherosclerosis in sarcoidosis patients by evaluating atherogenic indices and some specific parameters of common carotid artery Doppler ultrasonography: a morphological one, intima-media thickness (IMT) and a hemodynamic one, peak systolic velocity (PSV).

Focusing on PSV, authors found that sarcoidosis group showed higher values of PSV than controls and that PSV was positively correlated with IMT and atherogenic indices; thus, they concluded that also PSV might be considered a useful predictor for atherosclerosis and cardiovascular diseases (CVD) in asymptomatic sarcoidosis patients. This finding, in the opinion of the authors, is based on the concept that PSV values increase at the level of a vascular stenosis such as in the carotid district (2).

However, in our opinion PSV could be indicative of an increased risk of atherosclerosis and cardiovascular risk when it shows a tendency to reduction rather than increase. About that, Chuang et al. (3) studied the behavior of PSV and end diastolic velocity (EDV) of common carotid artery in 3146 Taiwanese adults, of which 220 presented ischemic heart disease and 247 presented strokes, during a median follow-up of 12.8 years. They reported that low common carotid PSV and EDV were independently associated with future cardiovascular disease: in detail, PSV (<65 cm/sec vs ≥80 cm/sec) was associated with CVD (Hazard ratio: 3.23, 95% confidence intervals: 2.51–4.15, $p < 0.0001$) while EDV (<15 cm/s vs ≥ 20 cm/s) showed even greater accuracy in identifying CVD (Hazard ratio: 4.54, 95% confidence intervals: 3.51–5.85, $p < 0.0001$). Similarly, König et al. (4) demonstrated that lower PSV of common carotid artery was associated with coronary heart disease (CHD): the study of a group of 27 patients with established CHD and of 30 individuals without symptoms suggestive of CHD, highlighted that mean PSV values were lower in the first group than in the control group (mean values: 53.6 cm/sec and 62.8 cm/sec respectively; $p = 0.042$). Moreover, Park et al. (5) found an inverse correlation between common carotid PSV and IMT in a cohort of 426 healthy adults.

In light of these considerations, findings about a higher PSV in sarcoidosis patients than controls and its positive correlation with IMT appear in contrast with the remaining conclusions of the authors that identify sarcoidosis as a probable predisposing factor for atherosclerosis. A possible reason of this discordance can be found in the lack of data inherent to the duration of the disease: in fact, it's not possible to exclude that sarcoidosis patients included in this study presented a quite recent onset of the disease. Thus, it is reasonable to hypothesize that microvascular damage may not be still completely traceable in the hemodynamic parameters of common carotid doppler ultrasonography.

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Longitudinal studies could be necessary to evaluate how PSV values can change according to the duration and the stage of the disease.

**Conflict of Interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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