Background: The aim of the study was to measure serum levels of endocan, myeloperoxidase (MPO), pentraxin 3 (PTX3) and 1,25-dihydroxyvitamin D3 (1,25(OH)2D3) in psoriatic patients and to study their correlations with carotid intima-media thickness (CIMT) in trial to evaluate predictability of these parameters in diagnosing asymptomatic atherosclerosis (AAS).

Patients and methods: Seventy-five psoriasis patients and 75 control subjects underwent complete clinical examination and Doppler estimation of CIMT using thickness of 0.9 mm as cutoff point for diagnosis of AAS. Blood samples were collected for determination of fasting blood glucose, lipid profile and serum C-reactive protein (CRP), endocan, MPO, PTX3 and 1,25(OH)2D3.

Results: Estimated blood low-density lipoprotein cholesterol (LDL-c) and serum CRP, PTX3,MPO and endocan levels were significantly higher, while blood high-density lipoprotein cholesterol(HDL-c) and serum 1,25(OH)2D3 levels were significantly lower in patients than in controls. CIMT showed significant positive correlation with disease severity and duration; patients’ age; and endocan, MPO, LDL-c, PTX3 and CRP levels, and significant negative correlation with HDL-c and 1,25(OH)2D3 levels. Regression analysis defined high serum endocan and MPO, low serum 1,25(OH)2D3 and increased disease severity as significant predictors of high CIMT.

Conclusion: Elevated serum levels of endocan and MPO and low 1,25(OH)2D3 levels may underlie the development of psoriasis-related cardiac manifestations. Elevated serum endocan and low 1,25(OH)2D3 levels could be used as early predictors of increased CIMT, which is a pathognomonic feature of AAS.

Keywords: endocan, vitamin D, myeloperoxidase, carotid intima-media thickness