ATOPIC ECZEMA/DERMATITIS

ATOPIC DERMATITIS IS NOT ASSOCIATED WITH INCREASED AORTIC VASCULAR INFLAMMATION: A PAIR-MATCHED, CASE-CONTROL STUDY

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Background: Epidemiological studies suggest that atopic dermatitis (AD) is associated with an increased risk of stroke and myocardial infarction. However, the effect of AD on vascular inflammation is unknown.

Objective: Compare vascular inflammation and Agatston calcium score (ACS) in patients with moderate-to-severe AD and controls without AD, but matched for coronary artery disease (CAD) risk factors.

Materials and Methods: Vascular inflammation and ACS were assessed in patients with moderate-to-severe AD (BSA with AD of ≥20% and an EASI score ≥15) and control subjects without AD, matched for age, sex, and CAD risk factors (hypertension, smoking history, diabetes mellitus, and dyslipidemia). All subjects underwent imaging using 18-fluorodeoxyglucose (18FDG) PET to quantify aortic vascular inflammation, and multiple detector computed tomography (MDCT) to measure the ACS. The level of 18FDG uptake, expressed as target-to-background ratio (TBR), was compared between groups using a paired Student's t-test. The number and proportion of subjects in each risk level of the ACS were compared across groups using generalized estimating equations for ordinal data.

Results: Analysis of 18FDG-PET images of the aorta showed that AD patients (mean age 29.3±14.0 years) have similar mean TBR values as controls (mean age 29.8±13.5 years) (26 pairs; 1.92±0.16 versus 1.91±0.17, p=0.81). The mean ACS was numerically higher in AD patients than controls (27 pairs; 112.1±502.0 versus 0.3±1.5); however, odds ratio of higher Agatston risk level was not statistically significant (27 pairs; odds ratio=3.45, p=0.14). Three subjects (11.1%) with AD and one subject (3.7%) without AD had an ACS >0.

Conclusions: In this group of relatively young patients with moderate-to-severe AD, the mean ACS was numerically higher than controls without AD but there was no increase in aortic vascular inflammation. Further research is needed to investigate the pathophysiology of the increased risk of stroke and myocardial infarction observed in AD patients.