

POSTER PRESENTATION

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Epicardial adipose tissue evaluated with cardiac magnetic resonance in normal subject and in patients with ischemic and dilated cardiomyopathies

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Background

Epicardial adipose tissue (EAT) is considered a marker of cardiovascular disease because of its pro-inflammatory properties. The aim was to find differences of amount of EAT in three groups of patients evaluated with cardiac magnetic resonance (CMR): 1) negative CMR; 2) patients with coronary artery disease (CAD); 3) patients with dilated cardiomyopathy (DCM).

Methods

We retrospectively evaluated 150 patients who underwent CMR (1.5 T, Siemens) in a time span of 22 months: 50 negative (mean age \pm standard deviation 47 ± 12.2 years), 50 with CAD (65 ± 9.7 years) and 50 with DCM (56 ± 12.8 years). For each patient we segmented manually the EAT in short-axis cine images at end-diastolic phase with Syngo-Argus software. Volume of EAT was converted into g ($g = 0.9196 * \text{volume}$). Intra and inter-reader reproducibility in a sub-group of 30 randomly selected patients (10 negative, 10 with CAD, 10 with DCM) was tested. Mann Whitney U and Bland-Altman test were used.

Results

Mean EAT in negative, CAD and DCM patients was 18.17 ± 10 mL, 35.07 ± 8 mL and 29.76 ± 13 mL respectively. A significant correlation was found comparing negative patients vs CAD ($p < 0.001$) and DCM ($p < 0.001$). No correlation was found comparing CAD vs DCM ($p = 0.890$). Overall intra and inter-reader reproducibility was up to 83% and 76%, respectively.

Conclusions

A significant difference of EAT amount between patients with CAD or DCM and negative patients was shown, adding more evidence to a correlation between EAT and the presence/absence ischemic or dilated cardiomyopathies.

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