

POSTER PRESENTATION

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Epicardial adipose tissue thickness assessed by cardiac magnetic resonance is an independent indicator for coronary artery stenosis in asymptomatic type 2 diabetic patients

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Background

We investigated the association between epicardial adipose tissue (EAT) thickness and myocardial ischemia as well as coronary artery stenosis assessed by cardiovascular magnetic resonance (CMR) in asymptomatic type 2 diabetic patients.

Methods

A total of 100 type 2 diabetic subjects (51 men and 49 women; mean age: 56.4 ± 7.6 years) were enrolled. Silent myocardial ischemia by CMR was defined as an evidence of inducible ischemia or myocardial infarction and signal reduction or stenosis of $\geq 50\%$ in the vessel diameter were used as the criteria for significant coronary artery stenosis on coronary MR angiography.

Results

EAT thickness was positively correlated with BMI, waist-to-hip ratio, systolic blood pressure, postprandial glucose, fasting/postprandial triglyceride, HbA1c level, and HOMA-IR. A total of 24 patients had significant coronary artery stenosis and 14 patients had silent myocardial ischemia in CMR (3 with silent myocardial infarction, 13 with inducible ischemia, 2 with both). EAT thickness was higher in patients who had significant stenosis; however, it was not different between the subjects with silent myocardial ischemia and the subjects with no evidence of silent myocardial ischemia in CMR (13.0 ± 2.6 mm vs. 11.5 ± 2.1 mm, $p=0.01$, 12.8 ± 2.1 vs. 11.7 ± 2.3 mm, $p=0.11$, respectively). In multivariate logistic

regression analysis, EAT thickness was an independent indicator for significant coronary artery stenosis after adjusting for traditional risk factors (OR 1.353, $p=0.031$).

Conclusions

Increased EAT thickness assessed by CMR is an independent risk factor for significant coronary artery stenosis in asymptomatic type 2 diabetes; however, the thickness was not associated with silent myocardial ischemia.

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