

学位論文の要旨

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主論文の題名			
Impaired myocardial perfusion reserve in patients with fatty liver disease assessed by quantitative myocardial perfusion magnetic resonance imaging.			
主論文の要旨			
<p>The purpose of this study was to determine whether the presence of fatty liver is associated with alteration of myocardial perfusion reserve (MPR). A retrospective analysis was performed on 65 asymptomatic subjects who underwent both plain abdominal computed tomography and cardiac magnetic resonance imaging (MRI), and who had normal LV wall motion, no regional myocardial ischemia and no myocardial scar on MRI. Stress and rest myocardial perfusion MRI were analyzed by using a Patlak plot method to quantify myocardial blood flow (MBF) and MPR in 16 myocardial segments. Fatty liver was observed in 18 (28%) of 65 subjects. No significant difference was found in rest MBF between subjects with fatty and without fatty liver (1.2 ± 0.75 vs. 1.1 ± 0.67 mL/min/g, $P=0.59$). However, MPR was significantly lower in fatty liver subjects than in non-fatty liver subjects (2.3 ± 0.74 vs. 3.3 ± 1.4, $P < 0.001$). Subjects with fatty liver had a higher prevalence of MPR < 2.5 (78% vs. 38%, $P < 0.005$) and higher triglyceride levels (206 ± 61 vs. 92 ± 37 mg/dl, $P < 0.001$). Multi-variate analysis revealed the presence of fatty liver is a significant predictor of reduced MPR with an odds ratio of 8.2 ($P < 0.01$). Nonalcoholic fatty liver disease is related to the reduced MPR, suggesting the impaired coronary microcirculation.</p>			