

Poster ME-3

Remodeling of Infarcted Myocardium with Contrast-Enhanced Magnetic Resonance Imaging

최병욱¹, 최규옥¹, 김영진¹, 정남식², 임세중²

¹연세대학교 의과대학 진단방사선과, 방사선의과학연구소, ²연세대학교 의과대학 심장내과

목적 : To evaluate remodeling of infarcted myocardium with contrast-enhanced MRI (ce-MRI) at true end-diastole (ED)

대상 및 방법 : MRI was performed with a Gyroscan Intera (1.5 Tesla, Philips, Netherlands) in 13 patients with acute subendocardial myocardial infarction. The First exam was done 0-15 days (mean 5.2days) after symptom onset and the second exam 28-88days (mean 49 days) after the first exam. Ce-MRI encompassing the entire left ventricle was performed with a multi-shot, turbo-field-echo, breath-hold sequence and a non-selective, inversion prepulse 10 minutes after the intravenous injection of Gd-DTPA at a dose of 0.2 mmol/kg body weight. To allow the long TD, ECG synchronization should use two RR-intervals for one acquisition of a segment of k-space by setting the heart rate to half that of the true heart rate. Trigger delay time (TD) was adjusted to the RR-interval for true end-diastolic imaging. The other typical parameters were TR=5.4ms, TE=1.6ms, voxel size=1.37x1.37x10mm, k-space data segmented into 8 segments with 32 lines of segment per two cycles over 16 cardiac cycles. The thickness of hyperenhanced myocardium and epicardially nonenhanced myocardium were followed.

결과 : The thickness of subendocardial hyperenhanced myocardium between two exams decreased from 5.425 mm to 3.108 mm ($p=0.005$) and epicardially nonenhanced myocardium did not changed (3.71.0 mm to 4.01.3 mm, $p=0.071$). The transmural thickness was also decreased from 57.813.4 % to 44.111.2 %. The mean thinning of hyperenhanced myocardium was 2.425 mm and the mean decrease of transmural thickness of hyperenhancement was 13.711.9 %. There were 3 cases of marked swelling of infarcted myocardium in the first exam compared to the non-infarcted myocardium. The myocardial swelling in acute phase of acute myocardial infarction was a confusing factor to evaluate the real portion of remodeling in follow-up exam..

결론 : Ce-MRI at true ED is unique method to evaluate remodeling of the infarcted myocardium itself in subendocardial myocardial infarction with high spatial resolution..