Meeting abstract

2024 Diagnostic efficacy of Nicorandil in perfusion MRI for the detection of myocardial ischemia

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Introduction
Pharmacological stress perfusion in MRI is attracting widespread interest as a technique for the assessment of myocardial perfusion. We have reported that high-dose Nicorandil is known to increase coronary blood flow. The duration of action of Nicorandil is 2 to 3 minutes, its effects on hemodynamics are minimal. These characteristics of Nicorandil lead to expectations that it is safe and simple to use.

Purpose
The objective is to assess the efficacy and safety of Nicorandil in stress perfusion MRI.

Methods
The subjects were 234 patients with angina pectoris and myocardial infarction. 1.5 T MRI (Vantage, Toshiba) was used. Immediately after an intravenous injection of Nicorandil (8 mg), perfusion MRI scanning was started. 1) We examined the presence of complications. 2) We examined the presence of Early Defect in perfusion MRI images. These findings were compared with the findings obtained by invasive coronary angiography (ICA) in 88 cases.

Results
1) No complication was observed in the 234 cases. 2) Pharmacological stress Perfusion Study: The results of 88 patients were compared with findings obtained by ICA. The degree of stenosis, more than 75% was defined as significant in ICA. In the detection of ischemic regions by Early Defect in high-dose Nicorandil Stress Perfusion MRI; Sensitivity 89%, Specificity 68%, PPV 83%, NPV 78%, Accuracy 81%. Nicorandil is suitable in pharmacological stress perfusion MRI because Nicorandil does not increase heart rate as much as other drugs do and it is simple to use Nicorandil for phamalogical stress.

Conclusion
Nicorandil is a very useful and safe drug for pharmacological stress perfusion MRI for the detection of myocardial ischemia.