

Poster ME-7

The fate of necrosis-avid MR contrast material (Gadophrin-2)-enhanced area of acute reperfused myocardial infarction as determined by MR imaging with Gd-DTPA enhancement and TTC staining after four weeks in a rabbit model

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목적 : To know the fate of Gadophrin-2-enhanced areas in hearts with acute reperfused myocardial infarction.

대상 및 방법 : The left anterior descending branches of coronary arteries were occluded for 90 min and reperfused for 60 min in 15 rabbits. Then, Gadophrin-2 (0.05 mmol/kg) was injected via ear veins. Short-axial T1-weighted spin echo images and fast cine images were obtained 24 hours after injection of Gadophrin-2. After four weeks, short-axial cine MRI was performed and T1-weighted spin echo images were obtained 5 min and 15 min after injection of Gd-DTPA (0.2 mmol/kg). The animals were sacrificed and short-axial slices of the specimen were stained with 1.5% triphenyltetrazolium chloride (TTC) solution.

결과 : The percents of areas of Gadophrin-2-enhanced lesion, Gd-DTPA-enhanced lesion, and TTC-unstained lesion as compared with the whole area of left ventricular wall on the slices with lesions were $22.0 \pm 13.0\%$, $16.3 \pm 8.4\%$, and $10.0 \pm 7.4\%$ respectively. The depth of involvement was full thickness in 13 and partial in two at 24 hours. The depth of involvement at four weeks was full thickness in ten and partial in five. The enhancement patterns of the lesions were homogeneous in seven and sandwich appearance with central unenhanced area in eight with Gadophrin-2 injection at 24 hours. They were homogeneous in nine, diffusely inhomogeneous in five, and sandwich appearance in one with Gd-DTPA enhancement at four weeks.

결론 : The Gadophrin-2-enhanced areas in acute myocardial infarction contain small amount of potentially viable tissue as shown by Gd-DTPA-enhanced area and TTC-unstained area at four weeks.