

## Uncommon and dynamic changes detected by $^{123}\text{I}$ -15-(p-iodophenyl)-3-R,S-methylpentadecanoic acid myocardial single photon emission computed tomography in a stunned myocardium induced by coronary microvascular spasm

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A 55-yr-old man underwent surgery. Soon after the procedure was finished, the patient complained of chest pain, and the electrocardiogram showed increase in the ST-segment in some leads. Emergency angiography showed normal coronary arteries, but there was asynergy in the left ventricle, and delayed filling of contrast medium was observed in the LCA. An intracoronary infusion of isosorbide dinitrate did not improve the delayed filling of contrast medium or ST segment increase in the electrocardiogram. Soon after nicorandil was injected into the LCA, the patient's symptoms, electrocardiogram, and delayed filling of contrast medium dramatically improved. On the second day, initial imaging by  $^{123}\text{I}$ -BMIPP myocardial SPECT showed a moderate increase in tracer uptake in the apico-anteroseptal region and a moderate decrease in tracer uptake in the lateral region, in which the first left ventriculography showed akinesis, and delayed imaging revealed a moderate increase in tracer uptake in the apical region and a high washout of  $^{123}\text{I}$ -BMIPP in the anteroseptal and lateral regions. On the sixth day, initial imaging by  $^{123}\text{I}$ -BMIPP myocardial SPECT showed a moderate decrease in tracer uptake in the apical and lateral regions and a mild decrease in tracer uptake in the anteroseptal region, and delayed imaging revealed a moderate increase in tracer uptake in the apical region and a high washout of  $^{123}\text{I}$ -BMIPP in the anteroseptal and lateral regions. By the 30th day,  $^{123}\text{I}$ -BMIPP myocardial SPECT had normalized. We consider that these dynamic changes in  $^{123}\text{I}$ -BMIPP myocardial SPECT imaging may reflect metabolic changes in fatty acids in the ischemic state, the size of the triacylglycerol pool, and the degree of turnover in the triacylglycerol pool.

**Key words:**  $^{123}\text{I}$ -BMIPP, fatty acid metabolism, myocardial ischemia, coronary microvascular spasm, nicorandil