Summary

Assessment of Therapeutic Effect in Acute Myocardial Infarction Using Early/Delayed Images of ^{123}I-BMIPP Myocardial Scintigraphy

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This study was aimed at analyzing the discordance between the initial and late scintigraphic images in patients with acute myocardial infarction (AMI), and utilizing the data obtained for the treatment of AMI patients.

Ninety-one patients with a history of the first episode of AMI were enrolled as subjects for this study. Emergency coronary angiography was performed in all the patients and left ventriculography (LVG) was carried out subsequently. ^{123}I-BMIPP myocardial scintigraphy was performed to obtain initial images (BMi) and delayed images at 4 hours (BMd). Scintigraphy was performed a mean of 6 days after the onset of AMI in the patients. The subjects were classified into three groups according to the scintigraphic data. Quantitative gated single photon emission computed tomography (SPECT) with ^{99m}Tc-sestamibi (MIBI) was also conducted one month and 6 months later in all the patients.

Discordance was observed in 51% of the patients. Left ventricular volume based on the quantitative gated SPECT (QGS) data at one month and 6 months after myocardial scintigraphy was significantly smaller in the washout group than in the other two groups. There was no significant change in LV volume measured at 6 months as compared to that measured at one month in the washout group. Significant increases in LVEDVI and LVESVI were observed over time in the no discordance group. In the fill-in group, the LV volume at one month was significantly higher than that in the washout group, but no significant change with time was observed.

During the subacute stage of myocardial infarction, discordance is often seen between initial and late BMIPP-myocardial-scintigraphic images. The presence of such discordance, and analysis of its pattern, may be useful in predicting the cardiac function in these patients during the chronic phase of this disease.

Key words: ^{123}I-BMIPP myocardial scintigraphy, AMI, QGS, Myocardial SPECT.