

Resting ^{123}I -BMIPP scintigraphy for detection of organic coronary stenosis and therapeutic outcome in patients with chest pain

Hiroshi YAMABE,* Sei FUJIWARA,* Kouten RIN,* Makoto ANDO,* Mitsuhiro YOKOYAMA,* Takaaki SAKAMOTO,** Toshiharu ISHIDA,*** Hiroshi ITAGANE**** and Takao MORI*****

*First Department of Internal Medicine, Kobe University School of Medicine

**Cardiovascular Center, Osaka City General Hospital

***Internal Medicine, Akashi National Hospital

****Cardiovascular Division, Osaka City General Hospital

*****Department of Cardiology, Miki City Hospital

Purpose: Resting ^{123}I -BMIPP scintigraphy can detect coronary artery disease based on persistent abnormality of myocardial fatty acid metabolism after transient ischemia. The present study aimed to determine the value of resting ^{123}I -BMIPP scintigraphy in diagnosing coronary artery disease and predicting the therapeutic outcome in patients with chest pain symptom.

Method: Five hospitals participated in this study, and scintigraphic and angiographic studies were performed in 104 patients without myocardial infarction. Twenty of them had non-coronary artery disease (chest pain syndrome), 26 had stable effort angina, 35 had unstable angina with organic coronary lesions, and 23 had vasospastic angina without significant organic stenosis.

Results: Overall sensitivity for diagnosing angina pectoris (stable, unstable and vasospastic) was 45%, and overall specificity for excluding non-coronary artery disease was 80%. The incidence of positive ^{123}I -BMIPP was 54% among patients with organic coronary stenosis (50% in stable angina and 61% in unstable angina with organic stenosis), but it was low (22%) in vasospastic angina without organic stenosis. Patients with advanced coronary stenosis and multi-vessel disease were found to have a higher incidence of positive ^{123}I -BMIPP. A positive ^{123}I -BMIPP result was correlated with a higher rate of subsequent intervention therapy (catheter intervention or CABG) than a negative result (48% versus 27%, $p = 0.03$ at one month; and 63% versus 35%, $p = 0.008$ at one year).

Conclusion: Resting ^{123}I -BMIPP scintigraphy was valuable in detecting advanced coronary lesions in angina patients associated with a high incidence of subsequent intervention therapy.

Key words: ^{123}I -BMIPP, angina, CABG, PTCA, intervention