

Impaired myocardial fatty acid metabolism detected by ^{123}I -BMIPP in patients with unstable angina pectoris: Comparison with perfusion imaging by $^{99\text{m}}\text{Tc}$ -sestamibi

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The present study was undertaken to determine the potential diagnostic value of ^{123}I -BMIPP scintigraphy for the detection of altered myocardial fatty acid metabolism in patients with unstable angina. Both myocardial metabolic imaging with ^{123}I -BMIPP and perfusion imaging with $^{99\text{m}}\text{Tc}$ -sestamibi were performed at rest in 28 patients with unstable angina in the pain-free state. The regional uptakes of ^{123}I -BMIPP or $^{99\text{m}}\text{Tc}$ -sestamibi were scored semiquantitatively (0 = normal, 4 = no activity) and compared with the coronary arteriographic findings. Decreased uptakes of ^{123}I -BMIPP were observed in 18 patients, and 11 patients had abnormal $^{99\text{m}}\text{Tc}$ -sestamibi images. Defect scores of ^{123}I -BMIPP were larger than those of $^{99\text{m}}\text{Tc}$ -sestamibi (7.8 ± 2.1 vs. 5.2 ± 1.9 , $p < 0.01$). The sensitivity for the detection of patients with unstable angina was higher in ^{123}I -BMIPP than in $^{99\text{m}}\text{Tc}$ -sestamibi (77% vs. 45%, $p < 0.01$). The site of the decreased ^{123}I -BMIPP uptake corresponded to the most stenotic coronary artery lesion in all patients.

Fatty acid metabolic imaging with ^{123}I -BMIPP was more sensitive for detecting myocardial ischemia than perfusion imaging with $^{99\text{m}}\text{Tc}$ -sestamibi. ^{123}I -BMIPP may be a clue to define the culprit lesion in unstable angina and be helpful to decide the best treatment and guide coronary angioplasty.

Key words: ^{123}I -BMIPP, $^{99\text{m}}\text{Tc}$ -sestamibi, unstable angina