Summary

Assessment of Myocardial Fatty Acid Metabolism in Patients with Angina Pectoris and Diabetes Mellitus Using $^{123}$I-BMIPP Myocardial Scintigraphy


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**Purpose** We studied the effect of myocardial ischemia and diabetes mellitus (DM) on the myocardial fatty acid metabolism using $^{123}$I-BMIPP myocardial scintigraphy. **Methods** We performed $^{123}$I-BMIPP myocardial scintigraphy in 50 patients with myocardial ischemia and without DM (AP), in 30 patients with myocardial ischemia and DM (AP + DM), 12 patients with DM and without myocardial ischemia (DM), and in 10 normal subjects (N). Myocardial uptake rate of $^{123}$I-BMIPP was obtained using the time activity curve. Myocardial washout rate of $^{123}$I-BMIPP was calculated using the polar images of early and delayed SPECT images. **Results** Myocardial uptake rate of $^{123}$I-BMIPP (%) were AP: 4.9 ± 0.6, AP + DM: 5.5 ± 0.5, DM 5.7 ± 0.5 and N: 5.0 ± 0.4. $^{123}$I-BMIPP myocardial uptake rate was increased in AP + DM and DM. $^{123}$I-BMIPP myocardial washout rate (%) were AP: 30.2 ± 4.3, AP + DM: 24.5 ± 3.9, DM: 16.1 ± 2.8 and N: 19.4 ± 3.2. $^{123}$I-BMIPP myocardial washout rate was increased in AP and AP + DM. $^{123}$I-BMIPP myocardial washout rate was increased particularly in patients with multi-vessels disease. $^{123}$I-BMIPP myocardial washout rate was decreased in DM. **Conclusion** The present study suggested that diabetes mellitus increased myocardial fatty acid uptake and decreased myocardial fatty acid washout, and that myocardial ischemia increased myocardial fatty acid washout. **Key words:** Myocardial fatty acid metabolism, Angina pectoris, Diabetes mellitus, $^{123}$I-BMIPP.