

## Summary

### Assessment of Myocardial Fatty Acid Metabolism in Patients with Angina Pectoris and Diabetes Mellitus Using $^{123}\text{I}$ -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  $^{123}\text{I}$ -BMIPP myocardial scintigraphy. **[Methods]** We performed  $^{123}\text{I}$ -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  $^{123}\text{I}$ -BMIPP was obtained using the time activity curve. Myocardial washout rate of  $^{123}\text{I}$ -BMIPP was calculated using the polar images of early and delayed SPECT images. **[Results]** Myocardial uptake rate of  $^{123}\text{I}$ -BMIPP (%) were AP:  $4.9 \pm 0.6$ , AP + DM:  $5.5 \pm 0.5$ , DM  $5.7 \pm 0.5$  and N:  $5.0 \pm 0.4$ .  $^{123}\text{I}$ -

BMIPP myocardial uptake rate was increased in AP + DM and DM.  $^{123}\text{I}$ -BMIPP myocardial washout rate (%) were AP:  $30.2 \pm 4.3$ , AP + DM:  $24.5 \pm 3.9$ , DM:  $16.1 \pm 2.8$  and N:  $19.4 \pm 3.2$ .  $^{123}\text{I}$ -BMIPP myocardial washout rate was increased in AP and AP + DM.  $^{123}\text{I}$ -BMIPP myocardial washout rate was increased particularly in patients with multi-vessels disease.  $^{123}\text{I}$ -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,  $^{123}\text{I}$ -BMIPP.