Summary

Assessment of Microcirculation Disturbance in Patients with Coronary Ectasia by ATP-Loading ^{99m}Tc-Tetrofosmin Myocardial SPECT

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Patients with coronary ectasia often develop chest pain and reveal ischemic changes on electrocardiograms and reduced left ventricular wall motion on left ventriculography, in the absence of epicardial coronary artery stenotic regions. We examined the disturbances in the coronary microcirculation in patients with coronary ectasia using left ventriculography and ATP loading ^{99m}Tc-tetrofosmin myocardial single photon emission computed tomography (SPECT) before and after administration of a coronary vasodilator and antiplatelet agents. **[Methods]** Twenty patients in whom coronary angiography revealed diffuse coronary artery ectasia but no stenotic regions were enrolled in this study. Left ventriculography and ATP loading ^{99m}Tc-tetrofosmin myocardial SPECT were performed before and after administration of the coronary vasodilator, nicorandil, as well as that of the antiplatelet agents, aspirin and ticlopidine. **[Results]** 1) The ejection fraction in left ventriculography was 48.3±17.4% before, and 56.6±18.3% after the drug administration, the ejection fraction was improved after the drug administration ($p<0.05$). 2) Before the drug administration, the total defect scores on ^{99m}Tc-tetrofosmin myocardial SPECT were 5.9±3.1 and 8.8 ±2.7 in the ATP-loading and rest images, respectively ($p<0.05$), and the corresponding scores after the drug administration were 4.1±3.0 and 5.4±3.1, respectively (N.S.). Thus, the total defect scores in the ATP-loading and rest images improved after the drug administration ($p<0.05$). **[Conclusion]** Myocardial damage in patients with coronary ectasia might be induced by microthrombotic embolism and microcirculation disturbance.

Key words: Coronary ectasia, Microcirculation, ^{99m}Tc-tetrofosmin.