MICROCIRCULATORY DYSFUNCTION DETERMINES THE LONG-TERM PROGNOSIS IN ASYMPTOMATIC PATIENTS WITH NON-OBSTRICTIVE HYPERTROPHIC CARDIOMYOPATHY

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Background: Coronary flow reserve (CFR) is known to be reduced in patients with hypertrophic cardiomyopathy (HCM). Decreased CFR, related to microcirculatory dysfunction, is a recognized major mechanism for myocardial ischemia in HCM. We investigated the long-term prognostic value of CFR in asymptomatic patients with non-obstructive HCM.

Methods: Thirty-five patients with non-obstructive HCM were investigated. Doppler flow velocity catheters were introduced into the left anterior descending coronary artery to calculate CFR. Eighteen of them showed CFR<2.2 (lower CFR) and seventeen of them showed CFR>2.2 (normal CFR). We performed clinical follow-up for median 9.4 years.

Results: There were no significant differences in age, gender, type of left ventricular hypertrophy between two groups. BNP levels in lower CFR were greater than those in normal CFR (p<0.05). During follow-up, eight patients suffered cardiovascular events: 2 cerebral infarction, 2 acute coronary syndrome, 2 hospitalizations for heart failure, 1 implantable cardioverter defibrillator implantation in lower CFR, and 1 cerebral infarction in normal CFR. The incidence of cardio-vascular events was significantly higher in patients with lower CFR than normal CFR (p<0.05).

Conclusions: In patients with non-obstructive HCM, CFR is a promising strong predictor for cardiovascular event.