CLINICAL FEATURES AND PROGNOSIS IN PATIENTS WITH CORONARY SPASM-INDUCED NON-ST-SEGMENT ELEVATION ACS

Poster Contributions
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Background: Although coronary spasm plays an important role in the pathogenesis of ischemic heart disease, its impact on non-ST-segment elevation acute coronary syndrome (NSTE-ACS) has not been fully elucidated. We evaluated the prevalence, clinical features, and long-term outcome of NSTE-ACS caused by coronary spasm in Japanese patients.

Methods: We studied consecutive 1,601 patients with suspected NSTE-ACS who underwent cardiac catheterization between January 2001 and December 2010.

Results: Significant organic coronary stenosis was found in 1,152 patients (72%, obstructive group). In patients without significant organic stenosis, coronary spasm was verified in 145 patients with spontaneous attacks, and verified in 175 out of 221 patients who underwent acetylcholine provocation test. Spasm-induced NSTE-ACS was diagnosed in 320 patients (20%, spasm group). Multivariate analysis showed that patients of the spasm group had the following features: age <70 years (odds ratio [OR] 1.81, 95% confidence interval [CI]: 1.25-2.62, p<0.01), female (OR 1.51, 95% CI: 1.05-2.17, p=0.03), no hypertension (OR 2.26, 95% CI: 1.65-3.11, p<0.01), no dyslipidemia (OR 2.51, 95% CI: 1.82-3.47, p<0.01), no diabetes mellitus (OR 2.07, 95% CI: 1.46-2.96, p<0.01), no history of myocardial infarction (OR 2.60, 95% CI: 1.33-5.13, p<0.01), eGFR ≥60ml/min/1.73m2 (OR 1.73, 95% CI: 1.14-2.62, p=0.01), TIMI risk score ≤2 (OR 2.53, 95% CI: 1.70-3.77, p<0.01), and no elevated cardiac biomarkers (OR 2.35, 95% CI: 1.70-3.26, p<0.01). During 19±8 months of follow-up, cardiovascular death, myocardial infarction, unstable angina, stroke, and heart failure were less frequently observed in patients of the spasm group than the obstructive group (5% vs 13%, p<0.01). Multivariate Cox hazard analysis identified the spasm group as one of the independent predictors of long-term outcome (hazard ratio 0.55, 95% CI: 0.32-0.96, p=0.03).

Conclusions: The present study found the frequent involvement of coronary spasm in the pathogenesis of NSTE-ACS in Japanese patients. Coronary spasm should be considered even in patients with less coronary risk factors and non-obstructive coronary arteries.