

Impact of Risk Factors on Prevalence and Prognosis by Age in Acute Myocardial Infarction

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Background/Aims: Cardiovascular risk factors such as hypertension, diabetes mellitus, hyperlipidemia, smoking, and obesity contribute to development of acute myocardial infarction (AMI) and its prognosis. However, impact of conventional risk factors on prevalence and prognosis by age has not been fully investigated yet. **Methods:** We examined 13,104 patients who were enrolled in the Korean AMI Registry (KAMIR) – National Institute of Health database. Major adverse cardiocerebrovascular events (MACCEs) were defined as a composition of all cause death, non-fatal MI, repeat revascularizations including repeated percutaneous coronary intervention and coronary bypass grafting, cerebrovascular accident and rehospitalizations at 2 years. Patients were divided into 4 groups according to age; Group 1 (<50 year-old), Group 2 (50-59 year-old), Group 3 (60-69 year-old), Group 4 (≥70 year-old). This research was supported by a fund by Research of Korea Centers for Disease Control and Prevention. **Results:** Total number of risk factors decreased as age increased (1.88±1.05 [Group 1] versus 1.75±1.07 [Group 2] versus 1.64±1.04 [Group 3] versus 1.47±0.98 [Group 4], $p<0.001$). Smoking (73.6%), followed by obesity (55.8%), was the most common risk factor in Group 1, whereas hypertension (65.5%), followed by diabetes mellitus (33.5%), was the most common risk factor in Group 4. As age increased, prevalence of smoking (from 73.6% to 17.4%) and obesity (from 55.8% to 22.6%) decreased, whereas prevalence of hypertension (from 31.0% to 65.5%) and diabetes mellitus (16.7% to 33.5%) increased (Figure A). Attributable risk for development of AMI of smoking (77.1%) and obesity (57.7%) were evident in Group 1, whereas those of hypertension (45.2%) and diabetes (20.3%) were evident in Group 4 (Figure B). During the follow-up, MACCEs occurs in 2246 (17.7%). In terms of MACCEs, attributable risk of smoking (79.6%), followed by obesity (60.9%), was greatest in Group 1, whereas attributable risk of hypertension (22.3%) was greatest compared with other risk factors in Group 4 (Figure C). **Conclusions:** In each age group, cardiovascular risk factors differently contributed to development and prognosis of AMI.

