Influence of socioeconomic status on the presence of obstructive coronary artery disease and cardiovascular outcomes in patients undergoing invasive coronary angiography

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Background: Although it has been documented that low socioeconomic status (SES) is associated with increased risk of mortality and cardiovascular disease (CVD), this issue has not been addressed in patients at high CVD risk. This study was performed to investigate the association of the patient's SES with the presence of obstructive coronary artery disease (CAD) and long-term cardiovascular outcomes who undergo invasive coronary angiography (ICA).

Methods: A total of 9,530 patients who underwent ICA for the evaluation and treatment of CAD (66.0 ± 12.3 years and 60.2% male) were retrospectively reviewed. The patients were divided into two groups according to the health insurance type: those with low SES who had the Medical aid program (Medical aid beneficiary [MAB] group; n = 1,436) and those with high SES who had the National Health Insurance program (National Health Insurance beneficiary [NHIB] group; n = 8,094). The primary outcome was a composite of cardiac death, acute myocardial infarction, coronary revascularization, and ischemic stroke.

Results: Of the study patients, 1,436 (15.1%) were in the MAB group. The prevalence of cardiovascular risk factors was higher in the MAB group compared to the NHIB group. However, the prevalence of obstructive CAD was similar between the two groups (62.8% vs. 64.2%; p = 0.306). During a median follow-up period of 3.5 years (interquartile range, 1.0-5.9 years), the incidence of the composite cardiovascular event was significantly higher in the MAB group than in the NHIB group (20.2% vs. 16.2%, p < 0.001). In multivariable Cox regression analysis, compared to the NHIB group, the MAB group was independently associated with worse clinical outcomes even after controlling for potential confounders (adjusted odds ratio, 1.28; 95% confidence interval, 1.07-1.54; p = 0.006).

Conclusions: Although CAD prevalence was similar, MABs showed an increased risk of composite cardiovascular events than NHIBs in Korean adults undergoing ICA. This provides additional evidence for the association between low SES and an increased risk of CVD, even in high-risk subjects.