Risk of Metabolic Syndrome for Stroke Is Not Greater than the Sum of its Components: Thai Epidemiologic Stroke (TES) Study

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Limited information is available on the association between the metabolic syndrome (MetS) and stroke. Whether or not MetS confers a risk greater than the sum of its components is controversial. This study aimed to assess the association of MetS with stroke, and to evaluate whether the risk of MetS is greater than the sum of its components. The Thai Epidemiologic Stroke (TES) study is a community-based cohort study with 19,997 participants, aged 45-80 years, recruited from the general population from 5 regions of Thailand. Baseline survey data were analyzed in cross-sectional analyses. MetS was defined according to criteria from the National Cholesterol Education Program (NCEP) Adult Treatment Panel III, the American Heart Association/National Heart, Lung, and Blood Institute (revised NCEP), and International Diabetes Federation (IDF). Logistic regression analysis was used to estimate association of MetS and its components with stroke. Using c statistics and the likelihood ratio test we compared the capability of discriminating participants with and without stroke of a logistic model containing all components of MetS and potential confounders and a model also including the MetS variable. We found that among the MetS components, high blood pressure and hypertriglyceridemia were independently and significantly related to stroke. MetS defined by the NCEP (odds ratio [OR], 1.64; 95% confidence interval [CI], 1.32-2.04), revised NCEP (OR, 2.27; 95% CI, 1.80-2.87), and IDF definitions (OR, 1.70; 95% CI, 1.37-2.13) was significantly associated with stroke after adjustment for age, sex, geographical area, education level, occupation, smoking status, alcohol consumption, and low-density lipoprotein cholesterol. After additional adjustment for all MetS components, these associations were not significant. There were no statistically significant difference (P = 0.723-.901) in c statistics between the model containing all MetS components and potential confounders and the model also including the MetS variable. The likelihood ratio test also showed no statistically significant (P = .166-.718) difference between these 2 models. Our findings suggest that MetS is associated with stroke, but not to a greater degree than the sum of its components. Thus, the focus should be on identification and appropriate control of its individual components, particularly high

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