Lifetime predictors of stroke in subjects without a diagnosis of hypertension: The aerobics center longitudinal study

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Background and purpose: Although several studies have assessed the importance of traditional risk factors in predicting stroke, none have concurrently addressed the stroke-predicting ability of these risk factors across the lifespan of subjects without a hypertension (HTN) diagnosis. Thus, this study aimed to assess the importance of blood-pressure-related risk indicators, cardiorespiratory fitness (CRF), weight status, diabetes mellitus (DM), and lifestyle factors as predictors of stroke in different stages of life among non-hypertensive subjects. Materials and methods: This study was a long-term follow-up study including 33,254 men and 10,598 women from the Aerobics Center Longitudinal Study (ACLS) who were 18-100 years old and did not have a HTN diagnosis at baseline. Logistic regression models were constructed using forward selection procedures for each age category, with stroke occurrence as the dependent variable, and pulse pressure (PP), mean arterial pressure (MAP), systolic blood pressure (SBP), smoking status, CRF, drinking behavior, DM status, and weight status as potential predictors. Results: In total, 507 subjects had a stroke during an average follow-up period of 17 years (range=1-34 years). Logistic regression models showed that MAP values (P=0.043) in those aged 19-39 years; SBP (P<0.001), CRF (P=0.001), weight status (P=0.005), and alcohol consumption (P=0.001) in those 40-60 years old; and CRF (P=0.002), weight status (P=0.005), and DM status (P=0.037) in those over 60 years old were predictors of stroke.

Conclusion: These findings suggest that, among individuals without a baseline HTN diagnosis, classic modifiable risk factors for stroke change across different stages of life. © 2019

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Cerebrovascular disease

Cohort study

Incidence

Risk factors

Stroke

adult

aged

alcohol consumption

Article

body weight

cardiorespiratory fitness

cerebrovascular accident

diabetes mellitus

drinking behavior

female

follow up

human

hypertension

lifestyle

longitudinal study

major clinical study

male

mean arterial pressure

population risk

prospective study

pulse pressure

risk factor

smoking

systolic blood pressure