

Prevalence of premature ventricular contractions in a population of African American and white men and women: The Atherosclerosis Risk in Communities (ARIC) Study

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Background: The distribution or the causes of premature ventricular contractions (PVCs) in diverse populations are not fully known. We describe the prevalence of PVCs on a 2-minute electrocardiogram (ECG) in adults to determine whether hypertension has an important association with such PVCs.

Methods: A cross-sectional analysis of the 15,792 individuals (aged 45-65 years) from the four US communities participating at visit 1 of the Atherosclerosis Risk in Communities (ARIC) study was performed. Multiple logistic regression was used to determine the association of PVCs with potential causal predictors of PVCs.

Results: Based on a 2-minute ECG, PVCs are present in greater than 6% of middle-aged adults. Increasing age, the presence of heart disease, faster sinus rates, African American ethnicity, male sex, lower educational attainment, and lower serum magnesium or potassium levels are directly related to PVC prevalence. Independently of these factors, hypertension is associated with a 23% increase in the prevalence of PVCs.

Conclusions: The prevalence of PVCs on a 2-minute ECG differs by age, ethnicity, and sex is associated with hypertension, heart disease, faster sinus rates, electrolyte abnormalities, and lower educational attainment. Hypertension is likely to be a major cause of PVCs in adults.

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