PREVALENCE AND RISK FACTORS ASSOCIATED WITH LOW CARDIAC EJECTION FRACTION IN YOUNG ADULTS: THE BOGALUSA HEART STUDY


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Abstract

Objectives: The purpose of this study is to determine the prevalence of abnormal cardiac ejection fraction (<55%) in a community based bi-racial cohort (black/white) and the correlation with cardiovascular (CV) risk factors in young adults.

Methods: Ejection fraction was measured in 567 white and 260 black adults, aged 23-43 years, by using left ventricular monoplane volume (M-mode, Teichholz formula). Prevalence and CV risk factors for low ejection fraction were assessed for each race sex group.

Summary of Results: 70 white males (28.7%), 62 white females (19.2%), 15 black males (15.8%) and 27 black females (16.4%) had abnormal ejection fraction. Significant race and sex differences were noted for the ejection fraction (blacks>whites, p=0.01; females>males, p=0.001). Out of 174 subjects with abnormal ejection fraction, blacks had higher systolic (p<0.001) and diastolic (p<0.001) blood pressures, whites had lower HDL-C (p=0.02). In bivariate analysis, HbA1c showed the strongest correlation with ejection fraction in white males (p=0.015) and white females (p=0.027).

Conclusion: Lipoprotein abnormalities in whites and hypertensive changes in blacks are associated with decreased ejection fraction in young adults. Significantly higher ejection fraction in blacks could be due to greater concentric cardiac hypertrophy.