CARdioVASCULAR DISEASE PREVALENCE, ASSOCIATED RISK FACTORS, AND PLASMA ADIPONECTIN LEVELS AMONG FILIPINO AMERICAN WOMEN

Objectives: This cross-sectional study was designed to examine the association between adiponectin and cardiovascular disease (CVD) among an understudied ethnic group of Filipino American women.

Methods: We recruited 266 Filipino women aged 40-86 years from the University of California, San Diego Filipino Women’s Health Study (1995–1999). Plasma adiponectin was extracted from archive blood samples and measured by radioimmunoassay. CVD was defined as coronary heart disease, angina, myocardial infarction, or stroke by history, electrocardiogram (Minnesota coding), or Rose questionnaire.

Results: CVD prevalence among Filipinas was 20.7% (n = 55), of which 85.5% were newly diagnosed. Filipinas with versus without CVD had more antihypertensive medication use (44.4% vs 26.7%), more parental history of myocardial infarction (38.2% vs 21.8%), higher proinsulin levels (13.2 vs 11.0 pmoL/L), lower adiponectin levels (5.09 vs 6.15 μg/mL), and higher prevalences of the metabolic syndrome (34.6% vs 28.0%) and microalbuminuria (24.0% vs 12.2%). Adiponectin (adjusted OR 5.55, 95% CI 2.3–26.9, P = .0021) was independently associated with CVD in a multivariate analysis that adjusted for age, exercise, family history, diabetes, hypertension, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, and microalbuminuria.

Conclusions: Independent of known risk factors, adiponectin was associated with CVD among Filipinas. This finding suggests that adiponectin may be a useful CVD indicator among this ethnic population. (Ethn Dis. 2008;18:458–463)

Key Words: Filipino, Women, Cardiovascular Disease, Adiponectin

INTRODUCTION

Adiponectin has been implicated as an antiatherogenic adipose hormone in both animal and epidemiologic studies. Adiponectin circulates at relatively high concentrations in plasma, and increased levels have been inversely associated with obesity, insulin resistance, type 2 diabetes, and cardiovascular disease (CVD). Low levels of adiponectin have been associated with an elevated risk of myocardial infarction and coronary heart disease; however, these associations have been inconsistent among women.

Although population-based adiponectin and CVD studies have predominately been conducted among Caucasians, ethnic differences in low adiponectin levels in association with CVD risk factors or outcomes have been reported among South Asians, Japanese, and African Americans. In a more recent study, normoglycemic Filipino American women had half the adiponectin concentration of Caucasian women, even after adjusting for age and waist-to-hip ratio. Filipino Americans have higher prevalences of hypertension and type 2 diabetes than those of Caucasians, African Americans, or other Asian ethnicities. However, no study to date has examined the association between adiponectin and CVD among this high-risk ethnic group, although their lower adiponectin levels might further exacerbate their risk for CVD. As a result, a study among African Americans demonstrated that elevated adiponectin levels increased the risk for CHD. Thus, the prospect that the association between adiponectin and CVD differs by ethnicity makes conducting such studies among ethnically diverse populations much more vital, particularly in those with an elevated prevalence of diabetes and hypertension, such as Filipinos.

Proinsulin, C-peptide, and microalbuminuria have also been correlated or associated with cardiovascular diseases, but their concurrent relationship with adiponectin and CVD has not been evaluated. The purpose of the present study was to assess the independent association of adiponectin with prevalent CVD among Filipino American women in San Diego County, California.

METHODS

Study Population
Community-dwelling Filipino American women aged 40 to 86 years were recruited from 1995 through 1999 in San Diego County, which has the second highest Filipino-American population (145,132) in California after Los Angeles County (296,708) to estimate the prevalence of several chronic diseases, including osteoporosis, hy-