

Update on Heart Failure Treatment and Outcomes in the Caribbean

Written by Anne Jacobson

Caribbean Cardiac Society Survey on Heart Failure

Heart failure is an emerging threat in the Caribbean Islands; yet, with no data on heart failure risks and outcomes in the Caribbean population, physicians are not fully prepared to address this problem. To fill this important information gap, the Caribbean Cardiac Society (CCS) has launched the CCS Survey on Heart Failure. Jocelyn Inamo, MD, Hopital Pierre Zobda-Quitman, Fort de France, Martinique, described the aims of this unprecedented project.

The CCS Survey on Heart Failure is a prospective, multicenter, observational study that is designed to characterize the demographic and clinical characteristics of patients who are undergoing inpatient or outpatient treatment for heart failure in cardiology centers across the Caribbean. Logistical support for the study is being provided by CCS staff. Co-investigators are Robert P. Giugliano, MD, SM, Brigham and Women’s Hospital, Boston, Massachusetts, USA, and Martin Didier, MD, Tapion Hospital, Castries, St. Lucia.

The study will begin with an initial wave of patient enrollment in Jamaica, St. Lucia, Barbados, Bahamas, Trinidad, Guadeloupe, and Martinique, and will be expanded to include patients from a total of 15 Caribbean islands. For 1 week each month over a 6-month period, cardiology centers will sequentially identify patients with chronic or acute heart failure for participation in the study. Patients will undergo hemodynamic assessment and cardiac imaging, and information will be collected on a range of demographic and clinical parameters, including the use of medications and implantable medical devices (Table 1). Patients will return for outpatient follow-up visits (or phone interviews) at 6 months and 12 months. Investigators are particularly interested in measuring the clinical outcomes of death, hospitalization for worsening heart failure, and quality of life.

Table 1. CCS Survey on Heart Failure: Demographic and Clinical Data Collection.

Data Category	Examples
Demographic characteristics	Age, gender, weight, height
Type of heart failure	Acute or chronic
Etiology of the disease	IHD, VHD, DCM, HOCM, HHD, infiltrative heart disease
Information on heart systolic function	Ejection fraction
Risk factors for cardiovascular diseases	Blood pressure, lipid profile, family history
Precipitating factors of acute HF	Atrial fibrillation, ventricular tachycardia, poor observance, suboptimal treatment
Main clinical signs and symptoms	Dyspnea, edema
Diagnostic procedures	6-minute walk test, ET, V _O ₂ , nuclear imaging, MRI, echo, RHC, coronary angiogram
Use of pharmacological treatments	ACE-I, ARBs, diuretics, antialdosterone, β-blockers
Use of nonpharmacological treatments	Education program, rehabilitation, CRT, AICD
Clinical outcomes	Death, heart failure hospitalization, quality of life

ACE-I=angiotensin-converting enzyme inhibitor; AICD=an implantable cardiac defibrillator; ARB=angiotensin II receptor blocker; CRT=cardiac resynchronization therapy; DCM=dilated cardiomyopathy; ET=exercise testing; HHD=hypertensive heart disease; HOCM=hypertrophic cardiomyopathy; IHD=ischemic heart disease; MRI=magnetic resonance imaging; VHD=vascular heart disease; V_O₂=myocardial oxygen consumption.

Dr. Inamo explained that the CCS is dedicated to improving the health of the Caribbean people through the advancement of cardiovascular knowledge and practice. Findings of the CCS Survey on Heart Failure will give physicians important insights into the unique needs of Caribbean patients with acute and chronic heart failure.

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Ischemic Cardiomyopathy in the Bahamas: 14-Year Findings

Several studies suggest that the etiology and presentation of heart failure are unique among black patients. For instance, compared with other patient populations, black patients with heart failure appear to have a lower prevalence of coronary artery disease (CAD) and an earlier age of disease onset [Dries DL et al. *N Engl J Med* 1999; Dunlap SH et al. *Am Heart J* 2003]. Such observations may have implications for the prevention and management of heart failure among black patients in the Caribbean Islands, said Conville S. Brown, MD, The Bahamas Heart Centre, Nassau, Bahamas.

To explore these findings, investigators at the Bahamas Interventional Cardiology Centre (BICC), Nassau, Bahamas, evaluated the demographic, clinical, and angiographic characteristics of Bahamian patients with cardiomyopathy. The retrospective study included 112 patients with symptomatic NYHA Stage II, III, and IV heart failure who were referred for coronary angiography at the BICC from March 1996 to March 2010. Investigators collected demographic and clinical data from detailed chart reviews, including the severity of left ventricular (LV) dysfunction, presence of CAD, and etiology of cardiomyopathy.

The prevalence of CAD among Bahamian heart failure patients was 20.5%. This is comparable with rates of ischemic cardiomyopathy that are observed in other Afro-Caribbean patients (26%) and lower than rates that are observed in Western countries (36%). Black race was a highly significant predictor of ischemic versus nonischemic cardiomyopathy (OR, 9.2; 95% CI, 2.5 to 35.4; $p < 0.001$). Other predictors of ischemic cardiomyopathy across racial groups included age > 50 years (OR, 3.3; 95% CI, 1.1 to 9.7; $p = 0.02$) and dyslipidemia (OR, 3.7; 95% CI, 1.3 to 10.3; $p = 0.009$). When dyslipidemia was adjusted for gender, body mass index, and race (black, white, or mixed race), its association with ischemic cardiomyopathy was weaker (OR, 2.8; 95% CI, 0.9 to 8.8; $p = 0.08$).

In the overall study population, the mean age of heart failure onset was significantly lower in black patients compared with white patients (52 years vs 65 years; $p = 0.001$). When patients were categorized by heart failure etiology, the age difference remained significant only for those with ischemic cardiomyopathy (55 years vs 69 years; $p = 0.024$)—not for those with nonischemic etiology (52 years vs 58 years; $p = 0.32$).

In summary, Bahamian patients with cardiomyopathy have a lower prevalence of CAD compared with other patient populations. Race, age, and dyslipidemia are important risk factors for the development ischemic versus nonischemic cardiomyopathy. Risk factors for ischemic cardiomyopathy among Caribbean patients will be explored further in a planned Pan-Caribbean study, a collaboration between the CCS, Brigham and Women's Hospital, and the Consortium for Southeastern Hypertension Control. Findings from the Bahamas, if confirmed by larger prospective studies, may have implications for the management of heart failure in the Caribbean region. In particular, these findings may justify a noninvasive approach to ruling out significant CAD in all Caribbean patients with heart failure.

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