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Commentary

Addressing Health Disparities in Idiopathic Dilated Cardiomyopathy

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African Americans are more likely to die from a variety of common chronic diseases including stroke, congestive heart failure, diabetes, hypertension, and major forms of cancer [1,2]. Previous authors have expressed concern that many black-white disparities in morbidity and mortality from chronic diseases have not diminished in the United States in recent decades despite concerted efforts to address them.

Idiopathic dilated cardiomyopathy (IDCM) refers to a primary myocardial disease with no known cause that is characterized by left ventricular or biventricular dilation and impaired myocardial contractility [3]. While recent advances have been made in understanding the genetic basis of dilated cardiomyopathy [4] as well as determining prognosis [5], there is still the need for a better understanding of the factors that drive health disparities related to IDCM. Pronounced disparities in morbidity and mortality from IDCM have been reported between African Americans and whites [6-9]. African Americans have been observed to be about twice as likely to develop IDCM [7, 8]. Among those who are diagnosed with the condition, African Americans are up to 5 times more likely to die from the condition compared to whites [10]. The fact that 30,000 cases of IDCM are diagnosed in the United States each year and that IDCM is the most frequent indication for cardiac transplantation highlight the significant public health and clinical consequences of this disease.

The higher risk of IDCM among African Americans is likely to be due to known and unknown risk factors for the condition. In particular, hypertension and hypertensive cardiovascular disease are more common among African Americans, and severe hypertension is an established cause of secondary dilated cardiomyopathy. Similarly, clinically diagnosed and undiagnosed diabetes is more common among African Americans than whites in the United States- to that end, diabetic cardiomyopathy is a well-characterized form of secondary cardiomyopathy [9]. Environmental factors may also account for racial disparities in IDCM. The Washington, DC Dilated Cardiomyopathy Study demonstrated that both bronchial asthma – a condition known to have several environmental triggers - and the use of asthma medications were identified as possible risk factors for IDCM. Asthma is more common among African Americans than whites in the United States.

Although no published studies have directly addressed this topic, neighborhood characteristics and the built and social environments may also influence risk of IDCM. In order to establish a diagnosis of IDCM, other causes of congestive heart failure (for example, coronary heart disease, hypertensive cardiovascular disease, hypertrophic cardiomyopathy, alcoholic cardiomyopathy, severe thyroid disease, and AIDS-related cardiomyopathy) must first be ruled out. Patients who lack access to primary health care or who lack transportation or money for out-of-pocket expenses may not be referred for state-of-the-art diagnostic testing. Both congestive heart failure and IDCM have been inversely associated with surrogates for socioeconomic status such as educational attainment and household income [7, 10, 11] . Multilevel studies are needed that exam

ine both individual-level risk factors for IDCM and area-based risk factors at the level of census tracts or zip codes, including area-based measures of access to primary health care and environmental toxicants that can affect the myocardium such as lead and cadmium.

Additional population-based research is needed to examine environmental risk factors for IDCM and to examine possible interactions with genetic and epigenetic factors that may lead to the development or progression of IDCM [10]. Although an expert group convened by the National Heart, Lung, and Blood Institute in 1991 strongly recommended that population-based registries of IDCM be established in diverse populations [12], we are unaware of the existence of any such registries. Population- based registries that include both environmental measurement data and biorepositories of biological material needed for studies of gene-environment and epigenetic factors are critically needed for further progress into understanding the etiology and progression of IDCM.

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