Heart Failure in Ethnic Minorities
Slow and Steady Progress*

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“No Chinese will leave his home to seek his fortune at a distance unless he is in some way driven to do so... No Chinese leaves his home not intending to return. His hope is always to come back rich, to die and be buried where his ancestors are buried.”

—A.H. Smith (1)

The fast increase of ethnic minorities in western countries has led not only to more keen attention to differences in cardiovascular diseases and risk factors among ethnic groups but also to a need to understand the impact of the outcome of cardiovascular diseases and their treatment as a public health issue (2–4). Heart failure (HF) is a world epidemic with high morbidity and mortality (5), and although there are data on the effect of HF in different ethnicities, there is also a paucity of large-scale HF studies that include diagnosis, risk factors, and management among ethnicities (2–4,6). Large clinical trials have also failed to include sufficient numbers of ethnic minorities to allow analyses by subgroup (7–9). In general, however, the cardiology literature has been replete with reports of racial differences between African-American patients with HF and Caucasians, and more recently, there have been additional data on HF in Hispanics, mostly within the United States (4,10,11). In contrast, Asian subjects are usually classified as 1 race or ethnicity, with little differentiation among the many individual geographic backgrounds, which may also differ significantly in the epidemiology of their HF. Often the term “Asian” is used to include both Chinese and South Asians, or the more amorphous term “other” is used to encompass any non-Hispanic groups. In parallel to the label of “Hispanic,” which can include 4 separate geographic regions and many countries, the label “Asian” fails to capture patients’ country of origin, culture, genetic patterns, migration history, and risk factors. Further research including an adequate representation of Asians will allow a better understanding of cultural healthcare barriers that can affect the presentation and outcomes of HF in this ethnicity and will help identify the risk factors that are associated with the development of HF and the impact of risk factor control and modification potential.

In this issue of JACC: Heart Failure, Choi et al. (12) give us a glimpse of those differences by comparing the clinical features of Chinese and South Asians, the 2 largest minority populations in Canada, with non-Chinese/non-South Asian (NCH/NSA) patients managed in common social macroenvironments and healthcare systems. The authors analyzed records of patients with HF managed in 2 specialized clinics in Ontario, Canada. Of the 1,671 patients in this report, 181 (11%) were identified as Chinese, 215 (13%) as South Asian, and the rest as NCH/NSA (76%). The authors demonstrated that fewer Chinese patients had a history of myocardial infarction and 3-vessel coronary artery disease on angiogram or left ventricular function with ejection fraction 30% to 39% or worse, and they had a lower prescription rate of angiotensin-converting enzyme inhibitors compared with their NCH/NSA counterparts. In contrast, South Asian patients more frequently had a past history of a myocardial infarction, 3-vessel disease on angiogram, and treatment with coronary revascularization compared with NCH/NSA patients.
Before analyzing the impact of the paper by Choi et al. (12), it is valuable to review the need for better Asian ethnic differentiation and its relevance to the U.S. population. The relevance becomes obvious when considering that migration from Asian countries accounted for only 7.8% and 5.5% of the total immigration in the early 1960s to the United States and Canada, respectively; yet, by the early 1990s, these numbers had increased to around 38% and 50%, respectively. Approximately 57,761 people from China entered the United States during fiscal year 1992 to 1993 alone compared with approximately 80,000 in the 5 years between 1982 and 1987 (1). These numbers include not only National Chinese but also populations from Taiwan and Hong Kong, some of which were born in Mainland China and others in Hong Kong itself. Given the strong British influence in Hong Kong, risk factors will undoubtedly mix and influence patterns of heart disease (1). The migration patterns of South Asians are also complex and include the countries of Afghanistan, India, Pakistan, Bangladesh, Nepal, Bhutan, Maldives, Sri Lanka, and Burma. South Asian immigration is also pertinent to the United States; by 1990, nearly 1 million individuals had immigrated to the United States, with a larger percentage being professionals. Today, the largest concentrations of South Asians, both immigrants and Americans with South Asian descent, are in California and New York. Such a variety of origin countries surely impacts the burden of risk factors by genetics and environmental issues (1).

In addition, it is also worthwhile to summarize the existent data on HF in Asian populations. Previous studies have shown that South Asians are at an increased risk of developing HF due to premature coronary artery disease (13), whereas the leading cause of HF in the Chinese population was related to the occurrence of hypertension (14). Studies in the United Kingdom showed that hospital admission rates for HF and presence of diabetes were higher in South Asian patients than in white patients (15). Although prior studies have suggested different risk profiles among ethnic groups, little is known regarding the clinical profiles of Asian minority groups with a confirmed diagnosis of HF (2). Therefore, this is an important presentation of 2 outpatient clinics in Canada with the opportunity to examine established HF patients from China and Southeast Asia and compare them with the non-Asian patients. As this population also grows in numbers in the United States, as previously noted, the information contained in this paper could be helpful to practicing clinicians who care for HF patients of Chinese and South Asian descent (12).

Strengths of the paper are the number of patients who are cared for in the 2 clinics and the ability to separate the Chinese patients from the South Asian patients; also, all of these patients are in the universal healthcare system in Canada where socioeconomic reasons for care differences may be minor. Nonetheless, important differences were noted, even in the relatively small number of patients, such as differences in the degree of ventricular dysfunction and medical therapy in the Chinese patients. The difference in myocardial infarction history (lower in Chinese patients) is another important observation. Of interest, the number of Chinese patients who are not on an angiotensin-converting enzyme inhibitor is striking, whether by perceived concerns regarding cough and angioedema or due to actual observed intolerance. This observation needs further clarification.

Nonetheless, there are several limitations to this paper that are important to delineate. The system that was utilized to include patients based on ethnicity may have led to misclassification of certain patients. The data are cross-sectional and retrospectively analyzed, and data were missing for some patients. Last, the results may not apply to the rural areas of Canada or other cities in terms of population demographics, clinical characteristics, and treatment of HF patients.

Despite the limitations, the paper by Choi et al. (12) is of great interest due to the paucity of data in patients of Chinese and Southeast origins, and given the growing number of South Asians in the melting pot that is the United States, clinicians will be faced with clinical decisions in this varied ethnic group. This is a small step, but it is 1 step forward. Evaluation and reduction of healthcare disparities is also paramount in improving management and prognosis of Chinese and South Asian patients. To that end, the American College of Cardiology has convened a group of healthcare providers that has been named the Coalition to Reduce Racial and Ethnic Disparities in Cardiovascular Outcomes (CREDO), whose goal is to demonstrate that evidence-based education can reduce disparities in cardiovascular care (16).

Nonetheless, this paper will help us along the path of improving our understanding of “Asian” ethnic variations of HF that will be necessary for better management of ethnic minority patients within their own cultural beliefs. In addition, it will increase awareness of the unique risk profiles among rapidly-growing ethnic minority groups so that appropriate screening procedures and support programs can be implemented. Finally, the realization of the
variety of countries and cultures that compose the “Asian” ethnicity needs to motivate investigators to be inclusive of ethnic minorities so that inferences and extensions of trial results can be truly tested by subgroups and not simply inferred, or worse, ignored.

REFERENCES