MEDIA RELEASE

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MULTINATIONAL HEART FAILURE STUDY SHOWS HIGH PREVALENCE OF CORONARY ARTERY DISEASE, HYPERTENSION AND DIABETES IN ASIAN PATIENTS

A multinational study involving over 5,000 heart failure patients to determine characteristics and outcomes in Asian patients has shed new light on the prevalence of the three major risk factors for heart failure – coronary artery disease, hypertension and diabetes.

The study initiated by the National University Heart Centre, Singapore (NUHCS), in partnership with the National Heart Centre Singapore (NHCS) and other centres recruited 5,276 heart failure patients from 50 centres distributed over 11 Asian regions. Of the 1,066 patients from Singapore participating in the study, 62 per cent had coronary artery disease, 70 per cent had hypertension and 58 per cent had diabetes. In addition, the average body mass index (BMI) of Singaporean patients was 25.9; a BMI higher than 23 increases one’s risk of getting heart disease and diabetes, among the other health issues.

“The silver lining is that most cardiovascular risk factors are modifiable; in other words there is a lot that we can do to reduce or prevent the risk of hypertension, diabetes and coronary artery disease,” said Associate Professor Carolyn Lam, principal investigator of the study and Senior Consultant, Department of Cardiology, NHCS. “By extension, this means that most of us will be able to lower our risk of developing heart failure if we keep to a healthy lifestyle through a sensible diet and regular exercise. Singapore’s recently announced war on diabetes is a prime example of efforts underway to improve outcomes among our patients.”

Professor Mark Richards, Chair of the Executive Committee of ASIAN-HF, said, “This study has given us the first prospective multinational data from Asia which shows that, aside from a consistently early age of onset compared with the West, there is no single Asian phenotype, and that Asian heart failure patients are very different from each other based on the region they are living in and their ethnicity.” Prof Richards is also the Director of the Cardiovascular Research Institute of Singapore (CVRI) at the National University Health System and Director of Research at NUHCS.
Associate Professor Lam added, “Based on this study, one possible explanation for the high cardiovascular risk profile we see in Asian patients with heart failure may be the rapid development of some regions in the last few decades.” She is also a Clinician Scientist with the SingHealth Duke-NUS Cardiovascular Sciences Academic Clinical Programme, and an Associate Professor with the Programme in Cardiovascular & Metabolic Disorders at Duke-NUS Medical School.

**Discovering new knowledge on Asian heart failure**

Asia has the lion’s share of patients with heart failure in the world, and the condition accounts for around 6,000 hospitalisations annually in Singapore\(^1\) alone. Despite the staggering numbers and deep insights on the condition gleaned from decades of research in Europe and the US, contemporary data on heart failure in Asia remains scarce.

To bridge this large knowledge gap in this part of the world, the ASIAN-HF registry was started in 2012 to gather real world data on the demographics and risk factors of heart failure patients from 11 Asian regions: China, India, Japan, South Korea, Indonesia, Malaysia, Singapore, the Philippines, Thailand, Taiwan and Hong Kong. The late-breaking findings of this study were presented by Associate Professor Lam at the European Society of Cardiology Heart Failure Congress held in Florence, Italy on 23 May 2016.

This study aims to deepen our understanding of heart failure in Asians by comparing the three key risk factors of heart failure across geographic regions, regional income levels and ethnicity, and the results will inform and encourage research to improve patient outcomes.

**Diversity among Asian patients**

The Asian patients involved in the study were relatively young with an average age of 60 years old, yet 64 per cent of them had two or more risk factors for heart failure.

Deeper analysis revealed ethnic differences between heart failure patients. For instance, Chinese patients across Asia were more than twice as likely to develop coronary artery disease as the Japanese or South Koreans, and Malay patients had the highest risk of diabetes among all the Asian ethnic groups studied.

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\(^1\) Based on the hospital bill sizes for heart failure and heart failure with complications published on the Ministry of Health’s website, www.moh.gov.sg.
The findings also indicate that regional income differences can influence one’s risk of getting heart failure. Indian patients from higher income regions, for example, had five times the risk of developing diabetes than their counterparts from lower income regions.

The research team plans to follow up on the heart failure patients from the study for the next two to three years to observe their prognoses and outcomes.

The ASIAN-HF study is supported by grants from the Boston Scientific Investigator Sponsored Research Program, National Research Foundation Singapore under its Translational and Clinical Research (TCR) Flagship Programme administered by the Singapore Ministry of Health’s National Medical Research Council, the Asian Network for Translational Research and Cardiovascular Trials (ATTRaCT) programme funded by the Agency for Science, Technology and Research, and Bayer.

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About the National Heart Centre Singapore

The National Heart Centre Singapore (NHCS, 新加坡国家心脏中心) is a 185-bed national and regional referral centre for cardiovascular diseases. It provides one-stop comprehensive preventive, diagnostic, therapeutic and rehabilitative cardiac services for heart patients.

Each year, NHCS handles over 110,000 outpatient consultations, 7,000 interventional and surgical procedures and 10,000 inpatients. Its outcomes for heart attack treatment, balloon angioplasty with stenting and coronary bypass surgery have been shown to be equivalent to international standards.

NHCS is the first heart centre outside USA and in Asia to receive the prestigious Joint Commission International (JCI) since 2005, which is an assurance for safe and quality patient care for the patients.

About the National University Heart Centre, Singapore

The National University Heart Centre, Singapore (NUHCS) brings together the resources, expertise and capabilities in the areas of Cardiology, Cardiothoracic and Vascular Surgery to better meet the needs of the growing number of patients with heart disease. A key centre for the treatment and management of complex cardiovascular diseases, its core clinical programmes include heart failure, structural heart disease, acute coronary syndrome, vascular medicine and therapy, women’s heart health and heart rhythm.

Comprising a team of cardiovascular specialists and experts from a multitude of medical and surgical disciplines, the NUHCS provides a comprehensive and holistic approach to the treatment of patients with heart problems. This approach is backed by cutting edge knowledge and information gathered by the Cardiovascular Research Institute (CVRI). The CVRI focuses on developing niche research work in creating new knowledge in support of NUHCS’ core clinical programmes by working in close collaboration with both local and international renowned research institutes such as the Agency for Science, Technology and Research (A*STAR) and New Zealand’s Christchurch School of Medicine and Health Sciences.

About Duke-NUS Medical School

The Duke-NUS Medical School (Duke-NUS) was established in 2005 as a strategic collaboration between the Duke University School of Medicine, located in North Carolina, USA, and the National University of Singapore (NUS). Duke-NUS offers a graduate-entry, 4-year MD (Doctor of Medicine) training programme based on the unique Duke model of education, with one year dedicated to
independent study and research projects of a basic science or clinical nature. Duke-NUS also offers MD/PhD and PhD programmes. Duke-NUS has five Signature Research Programmes: Cancer and Stem Cell Biology, Neuroscience and Behavioural Disorders, Emerging Infectious Diseases, Cardiovascular and Metabolic Disorders, and Health Services and Systems Research.

Duke-NUS and SingHealth have established a strategic partnership in academic medicine that will guide and promote the future of medicine, tapping on and combining the collective strengths of SingHealth's clinical expertise and Duke-NUS' biomedical sciences research and medical education capabilities.

For more information, please visit www.duke-nus.edu.sg