Press Release

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Multi-centre study to examine new approach to treat patients with heart failure

Doctors here are leading a multi-centre study to test a new approach to managing a form of heart failure which has no current treatment proven to reduce death rates or hospitalisations.

In Singapore, heart failure is the most common cause of cardiac hospitalisation, with only 32% of cases surviving beyond five years. About 30%-50% of heart failure patients here suffer from a particular type of heart failure known as “heart failure with preserved ejection fraction (HFpEF)” or “diastolic heart failure”. The three-year trial will focus on patients who present with such a disease. In such patients, their small, stiff hearts are often not dilated, can still pump with reasonable strength, but fill poorly and inefficiently, resulting in poor exercise capacity and high death rates. Older persons, women and those with high blood pressure tend to be affected by this condition.

Treatments that help when heart pumping action is poor are of no benefit to this group of patients. However, recently, a simple catheter procedure removing excess nerve signals to and from the kidneys (known as renal denervation) has been able to reduce blood pressure in patients with high blood pressure resistant to multi-drug treatment.

Removing excess nerve drive to the kidneys, heart and blood circulation holds promise as a treatment to patients with stiff hearts, as it is hoped that the treatment will improve the exercise capacity and functional status of the stiff heart, allowing it to fill more efficiently as well as reduce fibrosis and inflammation around the organ.

The study is being led by Associate Professor Carolyn Lam and Professor Mark Richards of the National University Heart Centre, Singapore (NUHCS). Said A/Prof Lam, "Heart failure with preserved ejection fraction is common, triggers recurrent hospital admissions, has a high mortality and carries a high burden of healthcare costs. Importantly we still do not have proven effective treatments for this serious condition. It is hoped that renal denervation will be a simple, one-time approach that can benefit patients with HFpEF."

The open, randomised controlled clinical trial will be conducted in seven sites across Singapore, New Zealand and Australia with operational support by the Singapore Clinical Research Institute (SCRI). “This trial demonstrates the close partnership between the
private-public sector, between doctors in Singapore and doctors in Australia and New Zealand and also the close collaboration in research operations between NUHS and SCRI", said Associate Professor Teoh Yee Leong, CEO SCRI.

Outcomes in heart failure remain poor with more than 50% of patients dying within five years. While therapeutic advances have been achieved in heart failure where patients have enlarged hearts that pump weakly (heart failure with reduced ejection fraction), no such gains have occurred in cases with stiff hearts. The knowledge gained from this trial will help doctors develop better treatments for the group of patients suffering from stiff hearts (preserved ejection fraction). First enrolments of study subjects have already begun at the National University Hospital and National University Heart Centre, Singapore.

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About the National University Health System (NUHS)
The National University Health System (NUHS) groups the National University Hospital (NUH), the NUS Yong Loo Lin School of Medicine, the NUS Faculty of Dentistry and the Saw Swee Hock School of Public Health under a common governance structure to create synergies to advance health by integrating clinical care, research and education.

The enhanced capabilities and capacity will enable the NUHS to deliver better patient care, train future generations of doctors more effectively and bring innovative treatments to patients through groundbreaking research.

For more information about the NUHS, please visit www.nuhs.edu.sg

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.

Partnerships are formed with various medical institutes as the NUHCS is a selected training centre for international physicians. Education and training ensures that our medical professionals are kept abreast of the latest findings, with our specialists also actively involved in conducting workshops and teaching programmes for medical undergraduates.

**About the Singapore Clinical Research Institute (SCRI)**

The Singapore Clinical Research Institute (SCRI), a subsidiary of Ministry of Health Holdings is an Academic Research Organization with the strategic imperative to enhance the standards of human clinical research through driving the development of core capabilities, infrastructure, intellectual and scientific leadership in Singapore. Its vision is to develop SCRI and Singapore as an ASEAN hub for clinical research excellence.

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