

\$6m pumped into research on heart failure

Part of fund will go into testing kit developed in NZ to diagnose problem

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By Judith Tan



Prof Richards is leading research into a kit that will allow doctors to identify patients with heart failure via a simple blood test. – PHOTO: NATIONAL UNIVERSITY HEALTH SYSTEMS

IN THE future, patients coming to an emergency room with the most common symptoms of chest pains and breathlessness may just require a quick blood test to determine if their hearts are failing. The test measures troponin, an enzyme released when the heart muscle is damaged.

If a diagnostic kit can be developed, it will allow doctors to identify patients with heart failure immediately without needing to get all their electrocardiograms, which is not always accurate.

Using money from a \$6 million grant given to them by the National Medical Research Council for the next two years, clinician-scientists at the National University Heart Centre Singapore (NUHCS) will begin testing a prototype kit developed in New Zealand.

'Only about 10 per cent to 15 per cent of the cases would be genuine heart failure, yet a lot of time, effort and manpower are invested here to identify those with real heart failure,' said heart clinician-scientist Mark Richards, who is leading the research charge.

The 55-year-old New Zealander became the director of the Cardiovascular Research Institute (CVRI) at NUHCS in November last year.

CVRI will be extending the collaboration to the emergency department at Singapore General Hospital soon. Part of the grant will go to another project to study inter-ethnic differences in diastolic heart failure, which is when the heart fails even while at rest.

'About half of all heart patients admitted to hospitals suffer from diastolic heart failure,' said Professor Richards.

Hospitals in Singapore have found that Malay and Indian patients tend to fare worse after suffering diastolic heart failure and are more likely to die of it than Chinese patients.

To study how racial disparities affect the outcomes of heart failure, CVRI has tied up with the six restructured hospitals in Singapore and four centres in New Zealand.

'We will be looking at 1,250 patients across the hospitals here and another 1,250 people from the Singapore Longitudinal Aging Study as the control,' Prof Richards said.

The ongoing longitudinal study tracks the health of ageing Singaporeans. NUHCS director Tan Huay Cheem said the studies are timely as heart disease is the second-leading cause of death in Singapore, after cancer.

The proportion of deaths caused by heart disease was 20.1 per cent in 2008, up from 18.5 per cent in 2006. The incidence of heart disease will continue to rise, as the population ages and chronic illnesses contributing to heart disease, such as hypertension and diabetes, continue to take hold.

Professor Tan said the number of heart failure patients admitted to NUH each year has been steadily rising. He said: 'In 2004, there were 534 heart failure patients at NUH. This number rose to 639 in 2005, and in 2007, there were 725.'