



Murmurs



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HIGHLIGHTS

- Novel Oral Anticoagulant Option in Atrial Fibrillation – From Clinical Trials to Clinical Practice
- Fellowship in Cardiomyopathy
- NHCS gives out education bursary to needy heart patients



Accomplished Heart Surgeon Wins National Outstanding Clinician Award

“To make my work the top priority in my life and apply myself fully to the welfare of my patients, accepting a life of dedication and service” was what Dr C Sivathasan, winner of the National Outstanding Clinician Award 2011, said when asked on his aspirations when he was a fresh medical graduate. Indeed Dr Siva, the co-director of the heart and lung transplant programme at the National Heart Centre Singapore (NHCS), has lived up to his life mandate. For almost a third of a century, the committed surgeon has been actively involved in the development of cardiothoracic surgery in Singapore. His groundbreaking work and immense contributions, particularly in heart and lung transplantation and treatments for end stage heart failure, earned him the prestigious national-level award which recognises individuals’ exceptional contributions to clinical work that advances the safety and quality of patient care.

An accomplished heart surgeon, Dr Siva was part of the pioneer team that established the heart and lung transplant programme and was involved in the first heart transplant in 1990 and the first lung transplant in 2000. These landmark surgeries marked the start of a new chapter in treatment of patients with end-stage heart and/or lung failure. To date a total of 53 heart transplants and 10 lung transplants have been performed, giving these severely ill patients a new lease of life.



Dr C Sivathasan, co-director of NHCS's heart and lung transplant programme, receiving the National Outstanding Clinician Award from Health Minister, Mr Gan Kim Yong at the National Medical Excellence Awards 2011 ceremony on 5 July 2011.

Improving patient survival and quality of life

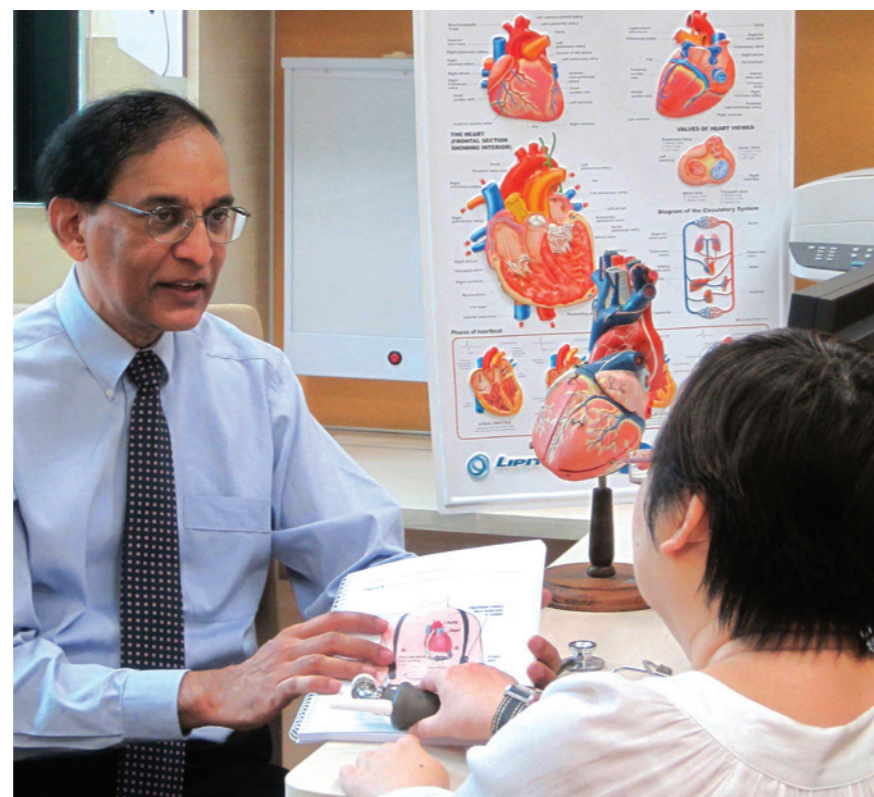
Recognising the worldwide problem of shortage of heart donors, Dr Siva started the mechanical heart device programme at NHCS in 2001 to support patients with terminal heart failure for recovery or as a “bridge” to heart transplantation. In 2009, he introduced a much-improved left ventricular assist device, which can be fully implanted inside the patient’s body with its small size. The new device, known as HeartMate II, allows advanced heart failure patients to enjoy a better quality of life and buy them more time while waiting for a suitable heart transplant.

Sharing a patient anecdote, Dr Siva said, “Last year, a Dutch lady who was in Singapore to deliver her third child, suffered a massive heart attack a week after she has given birth. We saved her life by implanting the HeartMate II. She recovered three weeks later and returned to Holland where she was on the heart transplant waiting list. But this pump has been working well on her and she decided not to have the heart transplant.”

Dr Siva also started the robotic-assisted minimally invasive cardiothoracic surgery in 2005, which allows heart patients to experience faster post-operative recovery, less pain and enjoy a lower risk of infection and transfusion due to less blood loss. The programme has since expanded to cover lung surgery.

“When we have very sick patients, we get sleepless nights. We phone the hospital every few hours to check on the patient’s condition and are always ready to rush down to the hospital should their condition turn for the worse. My life typically revolves around the hospital, patients and their welfare.”

Dr C Sivathasan, recipient of the National Outstanding Clinician Award 2011



Dr C Sivathasan explaining the HeartMate II device to a suitable heart patient.

His other achievements include establishing the management protocols for the cardiothoracic surgery intensive care unit in 1988 which laid a strong foundation for the current level of care and safety that are comparable to international standards, and setting up Singapore’s first vascular laboratory in 1991.

His selfless dedication and compassion for the patients earned him the Healthcare Humanity Award in 2010.

Sustaining developments in medicine

Over the course of his career, Dr Siva has provided mentorship, guidance and training to many young surgeons and paramedical staff, preparing them for the challenges of the medical profession. “To keep pushing the frontier of medicine, it is important to build teams, encourage and motivate them to be successful,” said the unassuming surgeon.

On his personal philosophy towards his field of work, Dr Siva said, “Dealing in heart surgery is always toeing the thin line between life and death. We cannot afford a mistake. Our work takes clear thinking and the ability to anticipate problems. We make appropriate plans to tackle them and get patients out safely and efficiently.”

Looking ahead, Dr Siva hopes that the mechanical heart device programme can also benefit heart patients from regional countries who do not have this treatment in their country, to improve their survival and quality of life.

Novel Oral Anticoagulant Option in Atrial Fibrillation – From Clinical Trials to Clinical Practice



by A/Prof Tan Ru San, Senior Consultant, Department of Cardiology and Director, Clinical Trials, National Heart Centre Singapore Adjunct Associate Professor, Duke-NUS Graduate Medical School Steering committee member and national coordinator, RE-LY trial

Dabigatran etexilate (Pradaxa®, Boehringer-Ingelheim), a direct thrombin inhibitor, is the first novel oral anticoagulant to receive U.S. Food and Drug Administration (FDA) approval as an alternative to warfarin for stroke prevention in atrial fibrillation (AF). The benefits of dabigatran were demonstrated in the RE-LY (Randomised Evaluation of Long-term anticoagulation therapy) trial, the largest published AF trial to date, with 18,113 subjects from 44 countries. Compared to optimal warfarin treatment, dabigatran 150mg BID reduced stroke and systemic embolism by 35%; haemorrhagic stroke, 74%; intracranial bleeding, 59%; and vascular death, 15%.

“For the last 50 years, warfarin had been the only effective anticoagulant for stroke prevention in AF. Unfortunately, its anticoagulant effects tend to fluctuate widely due to multiple food and drug interactions, as well as genetic factors. Doses have to be individualised, and titrated frequently via INR (International Normalised Ratio) monitoring. In contrast, dabigatran is stable, does not require regular blood monitoring, and is more convenient to use,” said A/Prof Tan Ru San, Director, Clinical Trials, National Heart Centre Singapore (NHCS), steering committee member and national coordinator for the multinational RE-LY trial. 65 Singaporean patients (48 from NHCS, 17 from Tan Tock Seng Hospital) participated in the RE-LY trial. Though the main RE-LY trial had officially ended in March 2009, some eligible patients in NHCS continue to receive – and benefit from – dabigatran in the trial extension programme, the RE-LYABLE trial.

“Dabigatran is the first drug with proven superiority to warfarin for stroke prevention in AF,” said A/Prof Tan, “which represents a significant milestone in anticoagulation management. Not only is it more efficacious, it also causes much less incidence of intracranial bleeding – the most dreaded complication of anticoagulation therapy – compared to warfarin.” An older direct thrombin inhibitor drug, ximelagatran, had similar anticoagulant efficacy to warfarin, but was found to cause rare but serious liver toxicities.



As a result, ximelagatran was withdrawn from the market. “Ximelagatran’s liver toxic effects appear to be drug- and not class-specific. With stringent liver monitoring in the RE-LY trial, there was no liver toxicity signal with dabigatran. In fact, patients randomised to warfarin in the RE-LY trial experienced a higher incidence of liver function disturbances compared to those assigned to dabigatran.”

Dabigatran has been included in many AF clinical practice guidelines, and the drug is now licensed in several countries. Dabigatran has recently become available at NHCS pharmacy at two doses, 150 mg and 110 mg. In the local drug labelling, the latter is reserved for elderly patients above 80 years old. “It has been a gratifying process to see the RE-LY trial from the initial planning stages, through its completion, and to the study drug’s final acceptance into clinical use,” said A/Prof Tan, “none of which would have been possible without the participation of altruistic trial patients who have agreed to entrust their care into our hands. The drug dabigatran truly answers a previously unmet clinical need for better stroke prevention in AF. The success of the RE-LY trial reaffirms NHCS’s commitment to clinical trials research in our ongoing quest for ever better treatment alternatives for patients in the field of cardiology.”

Fellowship in Cardiomyopathy

This issue, the Murmurs team speaks to Dr Tang Hak Chiaw, Consultant, Department of Cardiology at National Heart Centre Singapore (NHCS) on his enriching fellowship at The Heart Hospital, University College London Hospitals NHS Foundation Trust, United Kingdom from January 2010 – January 2011.

Why The Heart Hospital

The Heart Hospital sees the highest cardiomyopathy patient load in the United Kingdom (UK) and has probably the largest database on this subspecialty. It is a national tertiary referral centre for cardiomyopathy in London and offers the full spectrum of expertise to manage this patient group.



The Enriching Experience

Cardiomyopathy is a disease of the heart muscle. During my fellowship, I was exposed to a wide range of cardiomyopathy cases which include hypertrophic cardiomyopathy, dilated cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy, restrictive cardiomyopathy, left ventricular noncompaction, and other rarer cardiomyopathy cases. My mentor was Dr Perry Elliot.

I ran specialist clinic sessions for cardiomyopathy patients. Complex cases are presented in a weekly joint meeting with doctors from different specialties and expertise. Over the course of my one-year training, I had seen over 1,000 cardiomyopathy patients and had acquired necessary competence in managing this group of patients.

Besides the emphasis on cardiomyopathy, I also spent a portion of my training time on echocardiography and cardiac magnetic resonance (CMR) imaging as imaging is crucial in making the correct diagnosis of cardiomyopathy. My CMR mentor was Dr James Moon. At the end of my training, I have attained level 2 accreditation and can now independently report cardiac MRI.

Research is another integral component of my fellowship. I was involved in a project involving around 1,000 hypertrophic cardiomyopathy patients to study the correlation between genetics and its clinical expression. The outcome of the study is likely to be known in the next few years.

The overseas programme has also given me the opportunity to attend a number of conferences in UK and Europe which broadened my horizons.

Memorable Experience

Mastering the clinical management of cardiomyopathy is a fresh and exciting phase in my professional development. Besides gaining competency, London is also among the best cities for art and culture. The city is bursting with galleries, museums and theatres and many of the museums are free. It is also a food lovers' paradise with bustling markets and some of the world's best restaurants and bars. I particularly enjoyed the Persian fare. I also loved the snowy weather and took many nice, long leisure walks with my family.

What's next

Since March 2011, I have started a weekly hypertrophic cardiomyopathy clinic at NHCS to better manage this subgroup of heart patients through optimal use of medicine and appropriate interventional procedures.

We are also currently setting up a registry to better understand the clinical features and outcomes of this patient cohort in our multiracial society.

Married with two children, Dr Tang Hak Chiaw takes joy in parenting though he laments it can be quite challenging at times. The easy-going and amiable doctor also loves a good read, particularly classic literature on Sherlock Holmes and those by Jane Austen.



Striking a work-life balance, Dr Tang Hak Chiaw and his family enjoying an outing during his HMDP fellowship in UK.

What is hypertrophic cardiomyopathy?

Hypertrophic cardiomyopathy (HCM) is defined as thickening of the heart muscle that is not due to abnormal loading conditions like hypertension or valvular heart disease. It is a genetic condition and the estimated prevalence across different populations is about one in 500. This makes it one of the commonest genetic cardiovascular conditions.

What are the symptoms?

A large proportion of patients with this condition may have no symptoms and the diagnosis is usually only made after detection of an abnormal electrocardiogram (ECG) that is done for reasons like health screening. However, in rare instances, its first presentation can be sudden cardiac death in a young healthy adult.

Symptoms that result from HCM include chest pain, shortness of breath on exertion, palpitations and occasionally, loss of consciousness. Patient can present with arrhythmia like atrial fibrillation or congestive heart failure.

How is it treated?

The goal of therapy is aimed at improving patients' symptoms, treating complications like heart failure and assessment of sudden cardiac death risk. An implantable cardioverter defibrillator (AICD) may be required in high-risk patients.

The transmission of the disease is Mendelian* in pattern i.e. fifty percent of patients' offspring, regardless of male or female, will have the chance of inheriting the gene. As such, screening of first-degree relative of affected individual is required. Screening is done at yearly interval during adolescent period (growth spurt) and three to five yearly thereafter. ECG and echocardiogram are the two most important tests used in screening for this condition.

*Referring to Gregor Johann Mendel's laws of heredity. An Austrian botanist and geneticist. Mendel (1822-1884) was the discoverer of several basic laws of genetics now known as Mendel's laws.

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Nurse With Big Heart Wins PS21 Star Service Award

Ms Foo Lee Lian, a nurse clinician at NHCS, was awarded the PS21 Star Service Award 2011 for her commitment to high standards of service excellence. Among the praises she received, one read, "Sister Foo is an excellent role model for her staff. Her caregiver skills are exemplary and echo the values of the NHCS. She was respectful, empathetic and compassionate with my mom's care during her recent hospitalisation. She attended to her needs promptly and efficiently while being patient in dealing with my mom's requests. Thank you for all that you have done to help cardiac patients stay alive."

Sharing her winning formula, Lee Lian said, "To sustain a career in nursing, you need to have passion and the 'heart' to serve." Over the course of her 19 years in nursing, the steadfast veteran nurse won a slew of accolades, including the MOH Nurses Merit and the Healthcare Humanity Award in 2005 and EXSA Star Award in 2007. Apart from her work, Lee Lian also participated in several overseas humanitarian efforts in Afghanistan, Aceh, Vietnam and Indonesia.



Ms Foo Lee Lian receiving the PS21 Star Service Award 2011 from Mr Peter Ong, Head, Civil Service at the Excellence in Public Service Awards ceremony on 13 May 2011.



Promotion

DR CHING CHI KEONG
Senior Consultant,
Department of Cardiology

Healthcare Humanity Award Winners Show Compassion and Courage



Healthcare Humanity Awards 2011 winners, Khatijah Bte Kassim (2nd from left) and Manisah Bte Marseety (4th from left) with President S R Nathan, and their nursing superiors, Ms Rosalind Sim (extreme left) and A/Prof Lim Swee Hia (extreme right) at the award ceremony on 31 May 2011 at the Istana.

Compassion and courage are common qualities in the two Healthcare Humanity Award 2011 winners. Besides their extraordinary dedication to work, Manisah Bte Marseety and Khatijah Bte Kassim, both principal enrolled nurses at NHCS, also volunteer their time to help the less fortunate ones.

With close to 20 years in nursing, Manisah enjoys the immense job satisfaction from seeing patients recover from sickness. To her, sincerity is the key to the patient's heart. Noticing a patient's hair had overgrown, she volunteered to give him a trim which warmed his heart. Besides caring for the patients, Manisah also signed up for the Pakistan Medical Mission, a SingHealth Humanitarian Relief Programme in 2010, to help the flood victims. Over the two-week period, the team performed medical examination, wound cleansing and medication dispensing for 400-500 patients each day.

For Khatijah, her guiding principle is simple "To do my best for every patient". Beneath her quiet and gentle demeanour, lies a burning passion to help those in need. A volunteer probation officer with the Ministry of Community Development, Youth and Sports (MCYS) since 2001, she helps to rehabilitate juvenile offenders. Steering them on the right path, away from the downward spiral into criminality, gives her tremendous joy.

NHCS salutes all our winners!

Study by NHCS doctors scores in SMJ Best Research Paper Awards 2010

A team of doctors from National Heart Centre Singapore (NHCS) won the 2010 Singapore Medical Journal (SMJ) Best Research Paper Award - Second Prize. The team included Dr Tan Boon Yew, Dr Ho Kah Leng, Dr Ching Chi Keong and Dr Teo Wee Siong. Their paper titled "Novel electrogram device with web-based service centre for ambulatory ECG monitoring" emerged as a winner among 104 original articles published in 2010. The research paper evaluated the usefulness of HeartWave500, a novel web-based ambulatory ECG monitoring device against a standard transtelephonic event recorder among 120 heart patients over a two-week period.



Dr Tan Boon Yew receiving the SMJ Best Research Paper Awards 2010-second prize, on behalf of his team, from Mr Keith Riddiford, Managing Director, Novartis (Singapore) Pte Ltd, at the Singapore Medical Association annual dinner on 14 May 2011.

NHCS gives out education bursary to needy heart patients

Needy heart patients and their families were delighted to receive a \$200 education bursary comprising Bata and Popular vouchers, from Dr Amy Khor, Minister of State for Health, at the National Heart Centre Singapore (NHCS) Heart2Heart Fund Donors' Appreciation Ceremony cum Bursary Presentation on 18 June 2011. 250 children of needy heart patients will benefit from the educational bursary which will be disbursed over a two-year period. It aims to encourage them to strive academically and help defray their school-related expenses. The children performed in a musical performance to show their appreciation. The musical experience helped to build confidence in them and promote creative thinking and teamwork. Donors to the NHCS Heart2Heart Fund were also invited where they were presented with a token of appreciation for their generosity.

Mr Ramachandran Pillai, a beneficiary, whose wife and himself are both sick with three young children to raise, said, "This bursary will help a lot as we can use to buy books and shoes for our children. I hope when my heart condition is better, I can get a full-time job and give back to the NHCS Heart2Heart Fund."



The beneficiaries put up a musical performance titled 'The Magical Amber' to show their appreciation at the NHCS Heart2Heart Fund Donors' Appreciation Ceremony cum Bursary Presentation on 18 June 2011.

Upcoming Events

6th Cardiology Update @ Singapore

Date 3 - 4 September 2011

Venue College of Medicine Building, Auditorium

2nd CTO Interventions Live Course 2011

Date 14 - 15 October 2011

Venue National Heart Centre Singapore

For registration and event details, please check out www.nhcs.com.sg.

For feedback on Murmurs, please direct to

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