

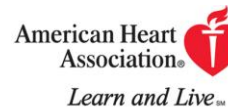
Progressing from a Fellowship to a CSA

Mark Y. Chan
Associate Professor
Yong-Loo Lin School of Medicine
Senior Consultant
National University Heart Centre, Singapore

Portfolio of papers during research fellowship

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



Long-Term Mortality of Patients Undergoing Cardiac Catheterization for ST-Elevation and Non-ST-Elevation Myocardial Infarction
Mark Y. Chan, Jie L. Sun, L. Kristin Newby, Linda K. Shaw, Min Lin, Eric D. Peterson, Robert M. Califf, David F. Kong and Matthew T. Roe

Phase 1b Randomized Study of Antidote-Controlled Modulation of Factor IXa Activity in Patients With Stable Coronary Artery Disease
Mark Y. Chan, Mauricio G. Cohen, Christopher K. Dyke, Shelley K. Myles, Laura G. Aberle, Min Lin, James Walder, Steven R. Steinhubl, Ian C. Gilchrist, Neal S. Kleiman, David A. Vorchheimer, Nicholas Chronos, Chiara Melloni, John H. Alexander, Robert A. Harrington, Ross M. Tonkens, Richard C. Becker and Christopher P. Rusconi

3-5 FIRST AUTHOR ORIGINAL PEER-REVIEWED PUBLICATIONS with a SPECIFIC THEME



Journal of Thrombosis and Haemostasis, 6: 789–796

DOI: 10.1111/j.1538-7836.2008.02932.x

ORIGINAL ARTICLE

A randomized, repeat-dose, pharmacodynamic and safety study of an antidote-controlled factor IXa inhibitor

M. Y. CHAN,* C. P. RUSCONI,† J. H. ALEXANDER,*‡ R. M. TONKENS,† R. A. HARRINGTON*‡ and R. C. BECKER*‡§

*Duke Clinical Research Institute, Durham, NC; †Regado Biosciences, Durham, NC; ‡Division of Cardiology; and §Division of Hematology, Duke University School of Medicine, Durham, NC, USA

Prevalence, Predictors, and Impact of Conservative Medical Management for Patients With Non ST-Segment Elevation Acute Coronary Syndromes Who Have Angiographically Documented Significant Coronary Disease
Mark Y. Chan, Kenneth W. Mahaffey, Lena J. Sun, Karen S. Pieper, Harvey D. White, Philip E. Aylward, James J. Ferguson, Robert M. Califf, and Matthew T. Roe

J. Am. Coll. Cardiol. Interv. 2008;1:369-378
doi:10.1016/j.jcin.2008.03.019

My Mentors

2006

2010



Richard Becker



Matthew Roe



Manjunatha Kini



Mark Richards

- Long-term relationships
- Individually successful versus good mentorship

Local Data Repositories: Singapore Cardiac Databank

Testing and Recalibrating the GRACE Score in Singapore

Recalibration of the Global Registry of Acute Coronary Events risk score in a multiethnic Asian population

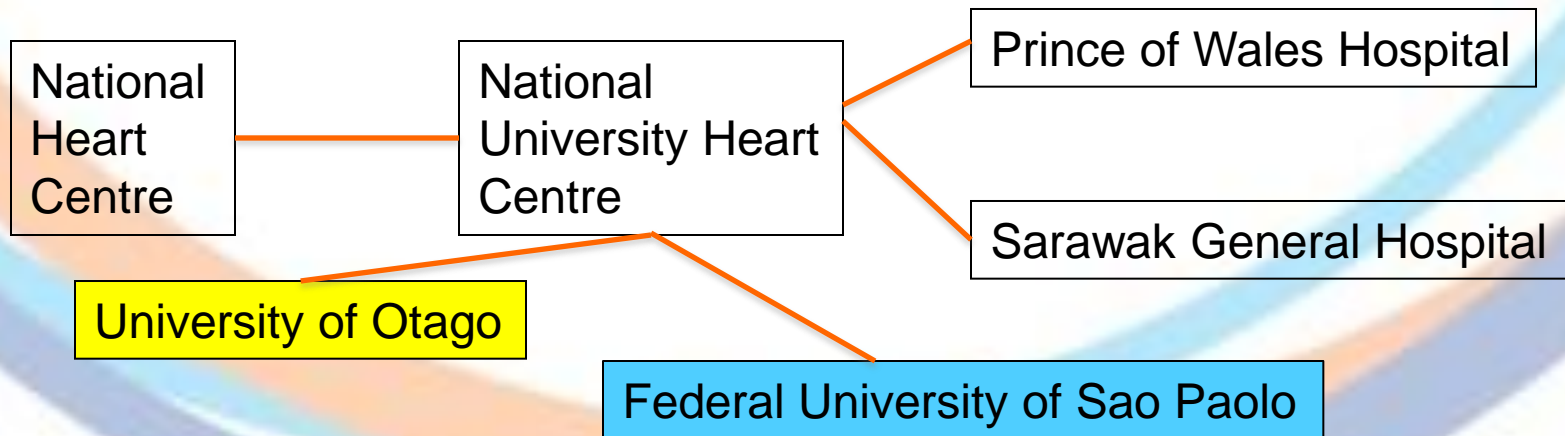
Mark Y. Chan, MBBS, MHS, ^{a,b,k} Bimal R. Shah, MD, MBA, ^{c,d,k} Fei Gao, PhD, ^{c,e,f} Ling Ling Sim, MSc, ^{e,f}
Terrance Chua, MBBS, ^{e,f} Huay Cheem Tan, MBBS, ^{a,f} Tiong Cheng Yeo, MBBS, ^{a,f} Hean Yee Ong, MBBS, ^{f,g}
David Foo, MBBS, ^{f,h} Ping Ping Goh, MBBS, ^{f,i} Soondal K. Surrin, MBBS, ^{f,j} Karen S. Pieper, MS, ^{d,f}
Christopher B. Granger, MD, ^{d,f} Tian Hai Koh, MBBS, ^{e,f} Agus Salim, PhD, ^b and E. Shyong Tai, MBBS^b *Durham, NC;
and Singapore, Singapore*

Chan MY et al: Am Heart J. 2011 Aug;162(2):291

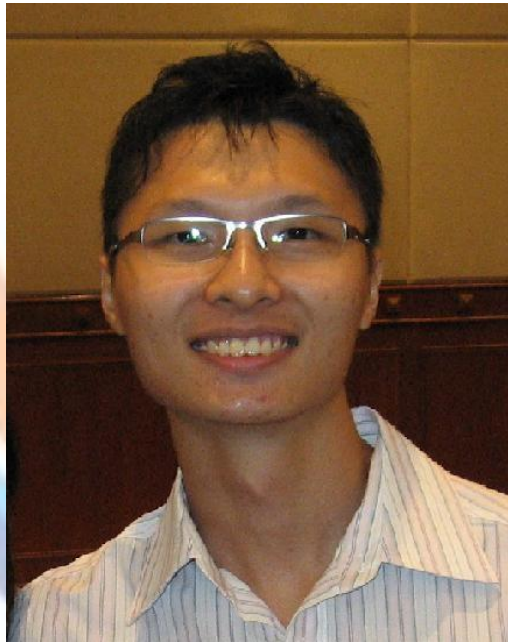
Stratifying risk with Metabolomics And platelet Reactivity Testing in Acute Coronary Syndrome (SMART-ACS)

supported by NMRC/CSA/028/2010

- Multinational, multiethnic cohort study of 1000 patients undergoing coronary angiography for ACS at 6 tertiary high-volume interventional centres



Collaborate or perish: Lipidomic core facilities in Singapore

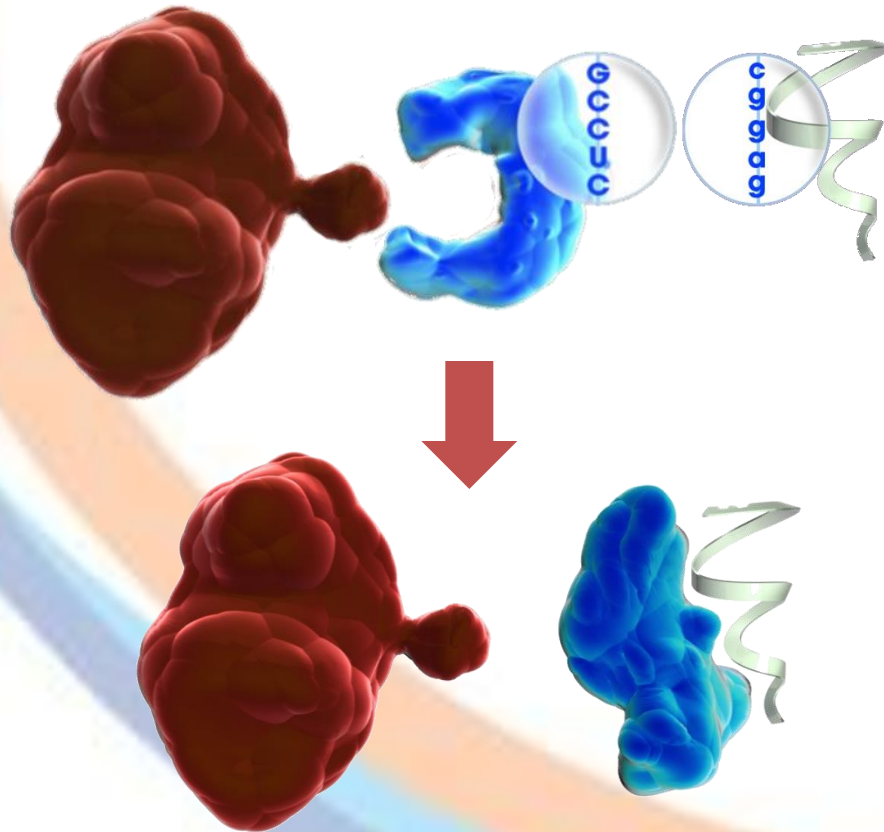


Ching Jianhong
Duke-NUS metabolomic facility



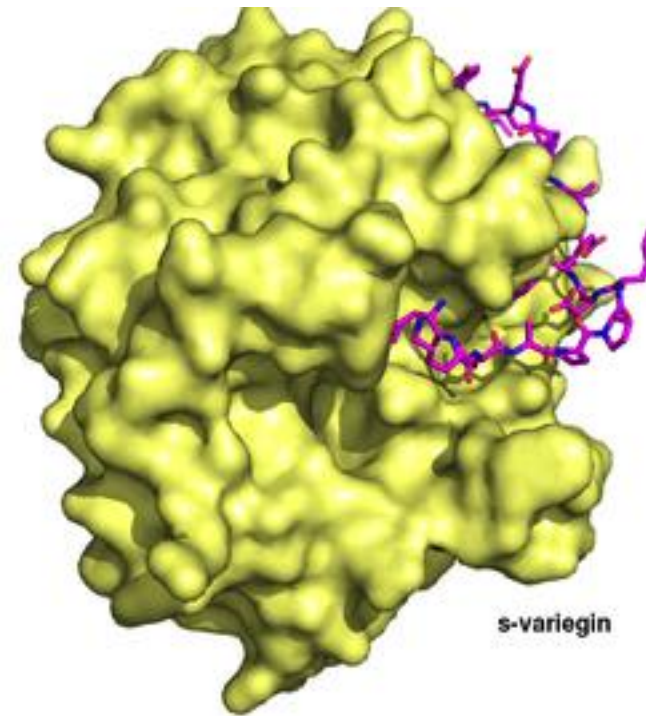
Markus Wenk
SLING - NUS

REG-1 (FIXa inhibitor-antidote system)



Chan MY, Circulation 2008

Variegain(Direct Thrombin Inhibitor)

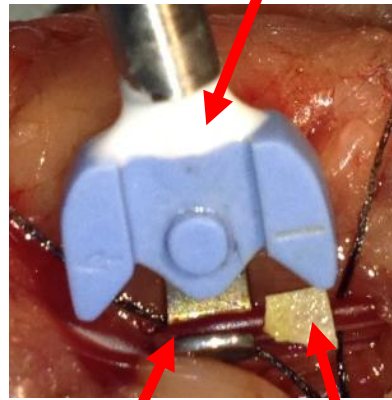


Cho YK, JBC 2007

Pharmacodynamics: Efficacy and safety models

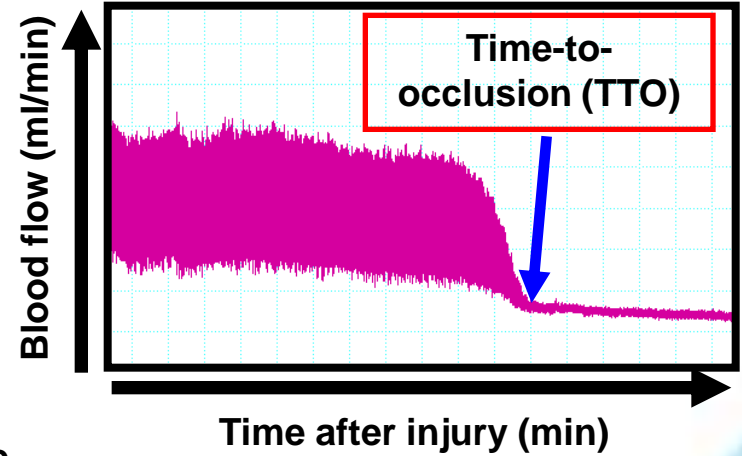
Rat carotid artery
thrombosis model
(efficacy model)

Doppler flow probe

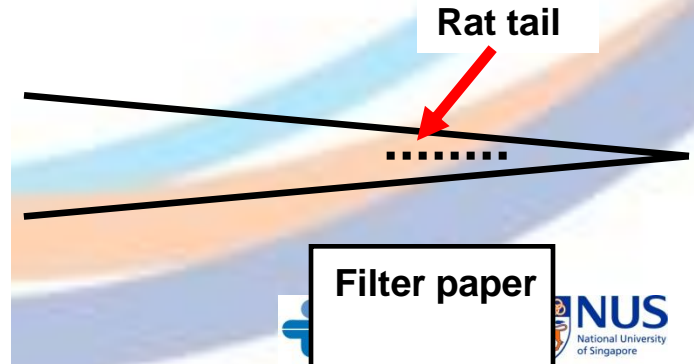
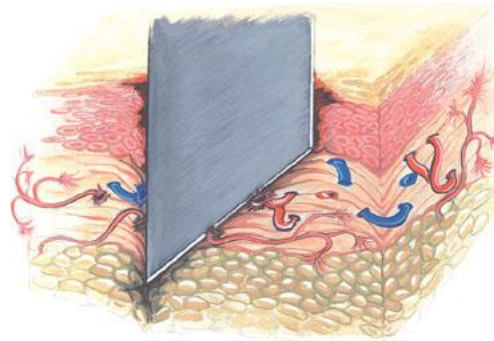


Right carotid
artery

Ferric chloride-
soaked filter paper



Rat tail incision
model (safety model)



Acute Coronary Syndrome Research **NUHS** at NUHCS/CVRI

National University
Health System

Epidemiology

Biomarker discovery

Interventional Studies

Drug Development

Singapore Myocardial Infarct Registry (SMIR)

- Data merged on ~ 44,000 AMI patients (SMIR and MOH rehospitalization and cost of care)
- 5 manuscripts in progress
- Cost of care comparisons with 10,000 AMI patients in US in progress
- Fully funded by NRDO and MOH

UNited CORoNary biobanks (UNICORN)

- Enrolled mirror biobanks of ~ 6000 coronary angiogram patients in Singapore and NL
- SMART-ACS** Enrolled 1200 patients from 4 countries
 - Lipidomics (Duke-NUS), platelet reactivity (Roche Diagnostics)

IMMACULATE bioregistry

- Ongoing
 - 1500 post-MI patients
- With longitudinal imaging
And biomarker profiles

IMMACULATE Trial

- Ongoing
- RCT of remote post-MI management

TRILOGY-ACS Trial

- Access to serial blood samples from 1500 ACS patients at Duke Clinical Research Institute (Durham, NC)
- Facilitated by adjunct appointment at Duke University (Durham, NC)
- Ongoing miRNA, metabolomics and neurohormonal biomarker profiling supported by Eli-Lilly

Variegin

- Preclinical testing of direct thrombin inhibitor
- Collaboration with NUS DBS, NUS DDU and NUS CM
- In vivo animal studies and in vitro human blood studies
- 2 other DTIs and 1 factor Xia inhibitor discovered

Acknowledgements

Mark Chan Lab at CVRI:

Leonardo Carvalho
Aruni Seneviratna
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Poh Sock Cheng
Tan Sock Hwee
Yang Xiaoxun
Daphne Qin
Norrapat Shih
Fathiah Amran
Tan Jingyi

NUHCS

Ling Lieng Hsi
Soo Wern Miin
Joshua Loh
Tan Liling
Mark Richards

DBS:

R. Manjunatha Kini
Koh Cho Yeow
Janaki Iyer

SLING

Markus Wenk

Duke-NUS

Ching Jianhong

Duke University

Matthew Roe
Svati Shah

Utrecht Medical Centre

Dominique de Kleijn
Crystel Gijsbert

Christchurch Heart Institute

Richard Troughton

Sarawak General Hospital Heart Centre

Alan Fong