

Advanced Clinical Approaches in Complex Cardiovascular Disease

**Invasive Options at the Crossroad of Ischemia,
Heart Failure, and Arrhythmias**

Eng Shiong Tan

CIP-GEGEVENS KONINKLIJKE BIBLIOTHEEK, DEN HAAG

Tan, E.S.

Advanced Clinical Approaches in Complex Cardiovascular Disease. Invasive Options at the Crossroad of Ischemia, Heart Failure, and Arrhythmias.

Proefschrift Groningen. - Met lit. opg. - Met samenvatting in het Nederlands.

ISBN-13 978-90-75092-52-3

ISBN-13 Digital version 978-90-75092-53-0

© Copyright 2008 E.S. Tan

All rights are reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanically, by photocopying, recording, or otherwise, without the written permission of the author.

Layout: Kader Desktop Publishing, Annen NL

Printed by: Drukkerij Gildeprint, Enschede NL



rijksuniversiteit
groningen

Advanced Clinical Approaches in Complex Cardiovascular Disease

Invasive Options at the Crossroad of Ischemia, Heart Failure, and Arrhythmias

Proefschrift

ter verkrijging van het doctoraat in de
Medische Wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. F. Zwarts,
in het openbaar te verdedigen op
woensdag 3 december 2008
om 13:15 uur

door

Eng Shiong Tan

geboren op 14 september 1955
te Jakarta, Indonesië

Promotores: Prof. dr. I.C. van Gelder
Prof. dr. F. Zijlstra

Copromotor: Dr. G.A.J. Jessurun

Beoordelingscommissie: Prof. dr. W.J. van der Giessen
Prof. dr. H.J.G.M. Crijns
Prof. dr. D.J. van Veldhuisen

Paranimfen:

Dr. R.L. Anthonio
Mr. P.W. Buijtenhuijs
Drs. Ir. E.H. Tan

Financial support by Biosense Webster, Cordis, BDS, St. Jude, Boston Scientific, Biotronik, Medtronic/Vitatron, Bard, Datascope, Bracco, Abbot, Merck Sharp & Dohme, Pfizer, Schering Plough, Servier, and Novartis for the publication of this thesis is gratefully acknowledged.

CONTENTS

Preface	9	
Introduction	13	
<i>Part I - Diagnosis</i>		
Chapter 1	Myocardial glucose uptake and relation to heart failure in patients with idiopathic dilated cardiomyopathy: effect of hyperinsulinaemic euglycaemic clamping. <i>Submitted</i>	19
Chapter 2	PET for evaluation of differential myocardial perfusion dynamics after VEGF gene therapy and laser therapy in end-stage coronary artery disease. <i>Journal of Nuclear Medicine 2004;45:1437-1443</i>	27
Chapter 3	Electromechanical mapping of the left ventricle for on-line decision-making in the cathlab. <i>Journal of Cardiovascular Medicine, provisionally accepted</i>	43
Chapter 4	Evaluation of global left ventricular function assessment of non-fluorescent electromechanical endocardial mapping compared to biplane left ventricular contrast angiography. <i>Biomed Central, provisionally accepted</i>	53
<i>Part II - Treatment</i>		
Chapter 5	Long term outcome of ablation of the atrioventricular node and implantation of a pacemaker for symptomatic refractory atrial fibrillation . <i>Europace 2008;10(4):412-418</i>	67
Chapter 6	Pulmonary vein isolation of symptomatic refractory paroxysmal and persistent atrial fibrillation: a single centre and single operator experience in the Netherlands. <i>Submitted</i>	81

Part III - Outcome

Chapter 7	Worse clinical outcome but similar graft patency in women versus men one year after coronary artery bypass graft surgery owing to an excess of exposed risk factors in women. CABADAS. <i>Journal of the American College of Cardiology</i> 1999;34:1760-1768	97
Chapter 8	Differences between early, intermediate and late angioplasty following coronary artery bypass grafting. <i>Critical Pathways in Cardiology, in press</i>	113
	Summary and future perspectives	125
	Nederlandse samenvatting en toekomstperspectieven	133
	Dankwoord	141