Dual Antiplatelet and Glycoprotein Inhibitors in Emergency PCI

Alan Yean Yip Fong and Hwei Sung Ling

Introduction 8.1

se is not person

mission dress to

Platelet inhibition remains the core pharmacotherapy component in patients undergoing emergency or primary percutaneous coronary interventions (PCI). This can be achieved using a number of intravenous and oral preparations. Intravenous (iv) antiplatelets include various glycoprotein IIb/IIIa (GPIIb/IIIa) inhibitors and the only available intravenous P2Y12 inhibitor, cangrelor. Available oral agents include aspirin and various P2Y12 inhibitors or their analogues. These are usually used in combination with the intention to maintain dual antiplatelet therapy (DAPT) for a period of time (generally up to 12 months) after the index PCI procedure.

Understanding and appropriate use of antiplatelet agents are vital in optimizing clinical outcomes of patients with acute coronary syndromes, particularly in the emergency setting where the patient may be naïve to all pharmacological agents. In this review, an overview on antiplatelet therapy for patient needing emergency PCI is described, including evidence from important clinical trials and suggested antiplatelet therapy regimens by published clinical practice guidelines.

8.2 **Aspirin**

Aspirin (acetylsalicylic acid) (≥75 mg daily) permanently inhibits plateletdependent cyclooxygenase 1 (COX-1) enzyme and consequently preventing synthesis of and thromboxane A2 (TXA2), which is a powerful promoter of platelet aggregation [1]. At higher doses, aspirin inhibits COX-2 which offers analgesic and

A. Y. Y. Fong (Ed)

Sarawak Heart Centre, Kota Samarahan, Malaysia e-mail: alanfong@crc.gov.my

H. S. Ling

Sarawak General Hospital, Kuching, Malaysia

© The Author(s) 2018

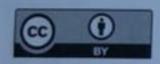
T. J. Watson et al. (eds.), Primary Angioplasty, https://doi.org/10.1007/978-981-13-1114-7_8

Editors
Timothy J Watson
Department of Cardiology
HSC Medical Center
Kuala Lumpur
Malaysia

Faculty of Medicine and Health Sciences University of Auckland New Zealand

James E Tcheng
Department of Medicine
Duke University
Durham
North Carolina
USA

Paul JL Ong Department of Cardiology Tan Tock Seng Hospital Singapore



ISBN 978-981-13-1113-0 ISBN 978-981-13-1114-7 (eBook) https://doi.org/10.1007/978-981-13-1114-7

Library of Congress Control Number: 2018947504

© The Editor(s) (if applicable) and the Author(s) 2018 This book is an open access publication.

Open Access This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.

The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721,

Contents

1	Historical Perspectives on Management of Acute Myocardial Infarction	
2	Prehospital Diagnosis and Management of Acute Myocardial Infarction	
	Adam J. Brown, Francis J. Ha, Michael Michail, and Nick E. J. West	
3	Primary Angioplasty: Efficacy and Outcomes	
4	ST-Elevation Myocardial Infarction Networks and Logistics: Rural and Urban	
	Jithendra B. Somaratne, James T. Stewart, Peter N. Ruygrok, and Mark W. Webster	
5	Utilization of PCI After Fibrinolysis	
6	Catheter Laboratory Design, Staffing and Training	
7	Patient Preparation, Vascular Access, and Guiding Catheter Selection	3
8	Dual Antiplatelet and Glycoprotein Inhibitors in Emergency PCI	
9	Anticoagulants and Primary PCI	
10	Management of Intracoronary Thrombus	19

Primary Angioplasty

A Practical Guide

Timothy J Watson Paul JL Ong James E Tcheng Editors

