

Contents

Foreword by Dame Carol Black, Lewis J. Rubin, and Jeremy D. Pearson	v
--	---

Preface	vii
---------------	-----

Section One Treatments for Pulmonary Vascular Disease

1 Therapy for Pulmonary Vascular Disease: Past, Present, and Future	3
<i>Lewis J. Rubin</i>	
2 Nitric Oxide Axis in Cardiopulmonary Disease	9
<i>Patrick Vallance</i>	
3 Endothelin Signaling in the Cardiomyocyte	14
<i>Peter H. Sugden and Angela Clerk</i>	
4 TGF- β /BMP Signaling in Pulmonary Vascular Disease	46
<i>Rachel J. Davies and Nicholas W. Morrell</i>	

Section Two Model Systems

5 Endothelin System in Chronic Kidney Disease	63
<i>Neeraj Dhaun, David J. Webb, and Jane Goddard</i>	
6 Endothelial Activation in Inflammation: Lessons Learned from E-Selectin	77
<i>Dorian O. Haskard</i>	
7 Pathogenic Mediators of Vessel Sclerosis: Regulation of Vascular Smooth Muscle Cell Proliferation by Growth Factors, the Extracellular Matrix, and the Endothelium	94
<i>Mark Bond, Yih-Jer Wu, Graciela Sala-Newby, and Andrew C. Newby</i>	
8 Control of Interstitial Fluid Homeostasis: Roles of Growth Factors and Integrins	105
<i>Kristofer Rubin, Åsa Lidén, Tijs van Wieringen, and Rolf K. Reed</i>	

Section Three Vascular Complications

9	Vascular Complications of Systemic Sclerosis: A Molecular Perspective	119
	<i>Daryll M. Baker and Christopher Denton</i>	
10	Therapeutic Options for Preventing Transplant-Related Progressive Renal and Vascular Injury	128
	<i>Susanna Tomasoni and Ariela Benigni</i>	

Section Four Surgical Approaches

11	Current State of Medical Therapies for Peripheral Vascular Disease.	139
	<i>Janice C.S. Tsui and Daryll M. Baker</i>	
12	Advantages of Harvesting the Saphenous Vein for Coronary Artery Bypass Surgery Using the “No-Touch” Technique	150
	<i>Domingos Sávio Ramos de Souza and Bruno Botelho Pinheiro</i>	
13	Toward the Prevention of Vein Graft Failure	158
	<i>Jamie Y. Jeremy, Sarah J. George, Nilima Shukla, Marcella Wyatt, Jonathon Bloor, Andrew C. Newby, and Gianni D. Angelini</i>	

Section Five Genetics, Gene Therapy, and Tissue Engineering

14	Statins and Cholesterol: How Low Can You Go?	179
	<i>Dimitri P. Mikhailidis</i>	
15	Endothelin-1–Promoting Actions in the Growth and Angiogenesis of Solid Cancers	187
	<i>Marilena Loizidou</i>	
16	Gene Therapy for Apolipoprotein A-I and HDL—The Ultimate Treatment for Atherosclerosis.	197
	<i>Petra Disterer, Eyman Osman, and James S. Owen</i>	
17	ETS Family of Transcription Factors and the Vascular System.	213
	<i>Masaomi Yamasaki</i>	
18	Aortic Valve: From Function to Tissue Engineering	229
	<i>Adrian H. Chester, Najma Latif, Magdi H. Yacoub, and Patricia M. Taylor</i>	
	Index	241