
Contents

1 The Autonomic Nervous System of the Heart	1
Irma Battipaglia and Gaetano A. Lanza	
2 Electrophysiology and Pathophysiology of the Autonomic Nervous System of the Heart	13
Carlo de Asmundis, Guy Van Camp, and Pedro Brugada	
3 Development of Heart Failure and the Role of the Autonomic Nervous System of the Heart	61
S. Pardaens and J. De Sutter	
4 Role of the Autonomic Nervous System in Ventricular Arrhythmias During Acute Myocardial Ischemia and Infarction	77
Richard L. Verrier and Alex Y. Tan	
5 Tracers for Sympathetic Cardiac Neurotransmission Imaging	87
James T. Thackeray, Jean N. DaSilva, and Philip H. Elsinga	
6 Imaging the Parasympathetic Cardiac Innervation with PET	111
Dominique Le Guludec, Jacques Delforge, and Frédéric Dollé	
7 Tracer Application in Cardiovascular Imaging: A Triple Jump	137
F. Michelle de Roo, Koen Hilgerink, Jos G.W. Kosterink, Gert Luurtsema, Herman J. Woerdenbag, and Hendrikus H. Boersma	
8 General Principles of PET/CT and Autonomic Innervation of the Heart Including Kinetics and Software	161
Stephan G. Nekolla and Christoph Rischpler	
9 General Principles of [¹²³I]-MIBG Scintigraphy for the Assessment of the Cardiac Sympathetic Activity: From Planar to SPECT	187
Hein J. Verberne and Arthur J.H.A. Scholte	
10 Preclinical Evaluations of Cardiac Sympathetic Innervation Radiotracers	201
David M. Raffel	

11	PET Imaging of Myocardial β-Adrenoceptors	235
	Riemer H.J.A. Slart, Peter van der Meer, René A. Tio, Dirk J. Van Veldhuisen, and Philip H. Elsinga	
12	Autonomic PET-CT Imaging in Heart Failure	255
	Juhani Knuuti	
13	Conventional Radionuclide Imaging of Autonomic Function in Heart Failure	263
	Arnold F. Jacobson and Jagat Narula	
14	Autonomic Imaging in Myocardial Ischemia	289
	Ichiro Matsunari and Junichi Taki	
15	Imaging the Cardiac Automatic Nervous System in Diabetes Mellitus	309
	Arthur J.H.A. Scholte and Hein J. Verberne	
16	Imaging of the Autonomic Nervous System in Cardiac Amyloidosis	321
	Walter Noordzij, Andor W.J.M. Glaudemans, Riemer H.J.A. Slart, and Bouke P.C. Hazenberg	
17	Autonomic Imaging in Heart Transplantation	337
	Frank M. Bengel	
18	Autonomic Imaging in Ventricular Arrhythmias	347
	Alexis Vrachimis, Michael Schäfers, Lars Stegger, and Christian Wenning	
19	Imaging Sympathetic Innervations of the Heart: Therapeutic Strategies SPECT/CT and PET/CT	367
	Erick Alexanderson, Albert Flotats, and Luis Eduardo Juárez-Orozco	
20	Autonomic Imaging: The Cardiorenal Axis	387
	Beata E. Chrapko and Casper F.M. Franssen	
21	Imaging the Functional Brain-Heart Axis: Neurodegenerative Diseases	405
	Giorgio Treglia, Antonella Stefanelli, and Ignasi Carrio	
22	Imaging the Functional Brain-Heart Axis: Mental Stress and Cardiac Dysfunction	419
	Walter Noordzij, Andor W.J.M. Glaudemans, René A. Tio, Mike J.L. DeJongste, Hans C. Klein, and Riemer H.J.A. Slart	
23	Autonomic Imaging Cardiotoxicity with [^{123}I]-MIBG: The Effects of Chemotherapy, Monoclonal Antibody Therapy, and Radiotherapy	437
	L.P. Salm, B.F. Bulten, H.W.M. Van Laarhoven, and L.F. De Geus-Oei	
Index		453