

Contents

Foreword.	V
I. Cardiac Sympathetic Innervation, Neurotransmission, Adrenoceptors and Signal Transduction in Myocardial Ischemia	
Topical Organization of the Cardiac Sympathetic Nervous System Thomas JX, Gerdisch MW	3
Cardiac Sympathetic Activity in Myocardial Ischemia: Release and Effects of Noradrenaline Schömig A, Richardt G	9
Modulation of α-Adrenergic Receptors and their Intracellular Coupling in the Ischemic Heart Corr PB, Yamada KA, Da Torre SD	31
β-Adrenergic Receptors and the G_i Protein in Myocardial Ischemia and Injury Maisel AS, Ransnäs LA, Insel PA	47
β- and α-Adrenoceptor-Agonists and -Antagonists in Chronic Heart Failure Brodde OE	57
Supersensitivity of the Adenylyl Cyclase System in Acute Myocardial Ischemia: Evaluation of three Independent Mechanisms Strasser RH, Marquetant R	67
II. Adrenergic Coronary Vasomotion	
α-Adrenoceptor Subtypes in the Coronary Circulation Holtz J	81
α- and β-Adrenergic Control of Large Coronary Arteries in Conscious Calves Young MA, Vatner DE, Vatner SF	97
Adrenergic Vasomotion in the Coronary Microcirculation Chilian WM	111
Neurohumoral Regulation of Coronary Collateral Vasomotor Tone Harrison DG, Selke FW, Quillen JE	121
α-Adrenergic Regulation of Myocardial Performance in the Exercising Dog: Evidence for Both Presynaptic α_1- and α_2-Adrenoceptors Guth BD, Thaulow E, Heusch G, Seitelberger R, Ross J, Jr.	131
III. Adrenergic Coronary Vasoconstriction and Blood Flow Distribution in Ischemic Myocardium	
Transmural Steal with Isoproterenol and Exercise in Poststenotic Myocardium Gallagher KP.	145

Mechanisms of Benefit in the Ischemic Myocardium due to Heart Rate Reduction	
Guth BD, Indolfi C, Heusch G, Seitelberger R, Ross J, Jr.	157
Adrenergic Control of Transmural Coronary Blood Flow	
Feigl EO.	167
α_1-Adrenergic Coronary Constriction during Exercise and Ischemia	
Jones CE, Gwirtz PA	177
Contribution of Postsynaptic α_2-Adrenoceptors to Reflex Sympathetic Constriction of Stenotic Coronary Vessels	
Deussen A, Busch P, Schipke J, Thämer V, Heusch G	193
α_2-Adrenergic Coronary Constriction in Ischemic Myocardium during Exercise	
Seitelberger R, Guth BD, Heusch G, Ross J, Jr.	207
Prevention of α-Adrenergic Coronary Constriction by Calcium-Antagonists	
Heusch G, Deussen A, Guth BD	219
Effects of Selective Cardiac Denervation on Collateral Blood Flow after Coronary Artery Occlusion in Conscious Dogs	
Shen YT, Knight DR, Thomas JX, Vatner SF	229

IV. Sympathetic Activation in Myocardial Ischemia

Cardiac Excitatory Reflexes during Myocardial Ischemia	
Malliani A	243
Pain and Myocardial Ischemia: the Role of Sympathetic Activation	
Thämer V, Deussen A, Schipke JD, Tölle T, Heusch G.	253
No Impairment of Sympathetic Neurotransmission in Stunned Myocardium	
Schulz R, Frehen D, Heusch G	267

V. Adrenergic Mechanisms Triggering Arrhythmias during Myocardial Ischemia

Does Noradrenaline Influence the Extracellular Accumulation of Potassium, Sodium, Calcium, and Hydrogen Ions ($[K^+]_e$, $[Na^+]_e$, $[Ca^{2+}]_e$, $[H^+]_e$) during Global Ischemia in Isolated Rat Heart?	
Hirche H, Knopf H, Homburg H, Walser R	283
Effects of β-Blockade on the Incidence of Ventricular Tachyarrhythmias during Acute Myocardial Ischemia: Experimental Findings and Clinical Implications	
Haverkamp W, Gülker G, Hindricks G, Breithardt G	293
Sympathetic-Parasympathetic Interaction and Sudden Death	
Vanoli E, Schwartz PJ	305

VI. Adrenergic Mechanisms in Clinical Coronary Heart Disease

Heart Rate and β-Adrenergic Mechanisms in Acute Myocardial Infarction	
Hjalmarson A	325
Coronary Vasomotor Tone in Large Epicardial Coronary Arteries with Special Emphasis on β-Adrenergic Vasomotion, Effects of β-Blockade	
Lichtlen PR, Rafflenbeul W, Jost S, Berger C	335

The Poststenotic Vessel Segment during Dynamic Exercise: Effect of Oral Isosorbide-dinitrate

Gaglione A, Hess OM, Haemmerli C, Suter T, Kirkeeide RL, Osenberg HP, Muser M, Anliker M, Gould KL, Krayenbuehl HP 347

α -Adrenergic Coronary Constriction in Effort Angina

Berkenboom G, Unger P. 359

Subject Index 371