Circulation Research
AN OFFICIAL JOURNAL OF THE AMERICAN HEART ASSOCIATION

VOLUME 50
January–June 1982

No. 1 (January)

Brief Reviews: K+ Fluctuations in the Extracellular Spaces of Cardiac Muscle. Evidence from the Voltage Clamp and Extracellular K+-Selective Microelectrodes. Ira Cohen and Richard Kline

Mechanisms of Action of Lidocaine and Quinidine on Action Potential Duration in Rabbit Cardiac Purkinje Fibers: An Effect on Steady State Sodium Currents? Thomas J. Colatsky


A Dynamic Electrical Record of the Pathway of Human His Bundle Activation from Surface Mapping. Leon G. Horan, Nancy C. Flowers, and Gurbachan S. Sohi

Increased Size of Myocardial Infarction in Dogs with Chronic Hypertension and Left Ventricular Hypertrophy. Samon Koyanagi, Charles L. Eastham, David G. Harrison, and Melvin L. Marcus


Mechanical Interactions between Four Heart Chambers with and without the Pericardium in Canine Hearts. Yukio Maruyama, Kouchi Ashikawa, Shogen Isoyama, Hiroshi Kanatsu, Eiji Ino-Oka, and Tamotsu Takishima


Thyroxine-Induced Redistribution of Isoenzymes of Rabbit Ventricular Myosin. Anne F. Martin, Edward D. Pagani, and R. John Solaro

A Positive Feedback Sympathetic Pressor Reflex during Stretch of the Thoracic Aorta in Conscious Dogs. Massimo Pagani, Paolo Pizzinelli, Mario Bergamaschi, and Alberto Malfarini

Effects of Capsaicin and Bradykinin on Afferent Fibers with Endings in Skeletal Muscle. Ronald W. Joyner

Comparative Sequence of Myosin Light Chains from Normal and Hypertrophied Human Hearts. Catherine Klotz, Jean J. Leger, and Marshall Elzinga

pH-Dependent Effects of Quinidine on the Kinetics of dV/dtmax in Guinea Pig Ventricular Myocardium. Augustus O. Grant, Joey L. Tranham, Kathleen K. Brown, and Harold C. Strauss


Electrophysiological and Electron Microscopic Correlations Concerning the Effects of Neuraminidase on Canine Heart Cells. W. Thomas Woods, Kikuko Imamura, and Thomas N. James

Microcirculation of Left Atrial Muscle, Cerebral Cortex, and Mesentery of the Cat: A Comparative Analysis. Bing-Lo Chang, Takashi Yamakawa, Jill Nuccio, Ron Pace, and Richard J. Bing

Ethanol-Induced Alterations in Pancreatic Blood Flow in Conscious Dogs. Lawrence D. Horwitz and J. Hurley Myers

No. 2 (February)


Effects of the Discrete Pattern of Electrical Coupling on Propagation through an Electrical Syncytium. Ronald W. Joyner

Comparative Sequence of Myosin Light Chains from Normal and Hypertrophied Human Hearts. Catherine Klotz, Jean J. Leger, and Marshall Elzinga

pH-Dependent Effects of Quinidine on the Kinetics of dV/dtmax in Guinea Pig Ventricular Myocardium. Augustus O. Grant, Joey L. Tranham, Kathleen K. Brown, and Harold C. Strauss


Electrophysiological and Electron Microscopic Correlations Concerning the Effects of Neuraminidase on Canine Heart Cells. W. Thomas Woods, Kikuko Imamura, and Thomas N. James

Microcirculation of Left Atrial Muscle, Cerebral Cortex, and Mesentery of the Cat: A Comparative Analysis. Bing-Lo Chang, Takashi Yamakawa, Jill Nuccio, Ron Pace, and Richard J. Bing

Ethanol-Induced Alterations in Pancreatic Blood Flow in Conscious Dogs. Lawrence D. Horwitz and J. Hurley Myers
Shortening of the Action Potential and Reduction of Pacemaker Activity by Lidocaine, Quinidine, and Procainamide in Sheep Cardiac Purkinje Fibers: An Effect on Na or K Currents? Edward Carmeliet and Tetsunori Saikawa

Work as a Correlate of Canine Left Ventricular Oxygen Consumption, and the Problem of Catecholamine Oxygen Wasting. G. Alex Roeke and Eric O. Feigi

Effects of pH on Na\(^{+}\)-Ca\(^{2+}\) Exchange in Canine Cardiac Sarcolemmal Vesicles. Kenneth D. Philipson, Malcolm M. Bersohn, and Ann Y. Nishimoto


Non-Hydrostatic Pulmonary Edema after Coronary Artery Ligation in Dogs: Protective Effect of Indomethacin. J. Franklin Richeson, Craig Paulshock, and Paul N. Yu

The Effect of pH on the Transient-State Kinetics of Ca\(^{2+}\)-Mg\(^{2+}\) -induced Slow Rate and Rhythm Dependency of Propagation from Normal Myocardium to a Ba\(^{2+}\), K\(^{+}\) +induced Response Zone in Rabbit Left Atrium. Masako Oya Masuda and Antonio Paes de Carvalho

The Effects of Verapamil, Quiescence, and Cardioplegia on Calcium Exchange and Mechanical Function in Ischemic Rabbit Myocardium. Patrick D. Bourdillon and Philip A. Poole-Wilson

Mechanisms of Quinidine-Induced Depression of Maximum Upstroke Velocity in Ovine Cardiac Purkinje Fibers. Francis M. Weld, James Coromillas, Jeffrey N. Rothman, and J. Thomas Bigger, Jr.

Regulation of Coronary Blood Flow during Individual Diastoles in the Dog. William P. Dole and Vernon S. Bishop

Electrophysiological Effects of Procainamide in Acute and Healed Experimental Ischemic Injury of Cat Myocardium. Robert J. Myerburg, Arthur L. Bassett, Kristina Epstein, Marion S. Gaide, Patricia Kozlovskis, Sam S. Wong, Agustin Castellanos, and Henry Gelband

Vascular Smooth Muscle: Calmodulin and Cyclic AMP-Dependent Protein Kinase Alter Calcium Sensitivity in Porcine Carotid Skinned Fibers. J. Caspar Ruegg and Richard J. Paul


The Effects of Changes in Extracellular Ionic Concentrations on Aortic Baroreceptors with Nonmyelinated Afferent Fibers. Peter Thoren, Michael C. Andersen, and Arthur M. Brown

Rate and Rhythm Dependency of Propagation from Normal Myocardium to a Ba\(^{2+}\), K\(^{-}\)-induced Slow Response Zone in Rabbit Left Atrium. Masako Oya Masuda and Antonio Paes de Carvalho

Rapid Reseating of the Aortic Baroreceptors in the Rabbit and Its Implications for Short-Term and Longer Term Reflex Control. Patricia K. Dorward, Michael C. Andresen, Sandra L. Burke, Judith R. Oliver, and Paul I. Korner

Letters to the Editor

News from the American Heart Association

No. 3 (March)

Brief Reviews: Metabolic Functions of the Pulmonary Circulation. Sami I. Said


Effect of Tissue Anisotropy on Extracellular Potential Fields in Canine Myocardium in Situ. David E. Roberts and Allen M. Scher


The Effects of Verapamil, Quiescence, and Cardioplegia on Calcium Exchange and Mechanical Function in Ischemic Rabbit Myocardium. Patrick D. Bourdillon and Philip A. Poole-Wilson

Mechanisms of Quinidine-Induced Depression of Maximum Upstroke Velocity in Ovine Cardiac Purkinje Fibers. Francis M. Weld, James Coromillas, Jeffrey N. Rothman, and J. Thomas Bigger, Jr.

Regulation of Coronary Blood Flow during Individual Diastoles in the Dog. William P. Dole and Vernon S. Bishop

Electrophysiological Effects of Procainamide in Acute and Healed Experimental Ischemic Injury of Cat Myocardium. Robert J. Myerburg, Arthur L. Bassett, Kristina Epstein, Marion S. Gaide, Patricia Kozlovskis, Sam S. Wong, Agustin Castellanos, and Henry Gelband

Vascular Smooth Muscle: Calmodulin and Cyclic AMP-Dependent Protein Kinase Alter Calcium Sensitivity in Porcine Carotid Skinned Fibers. J. Caspar Ruegg and Richard J. Paul


The Effects of Changes in Extracellular Ionic Concentrations on Aortic Baroreceptors with Nonmyelinated Afferent Fibers. Peter Thoren, Michael C. Andersen, and Arthur M. Brown

Rate and Rhythm Dependency of Propagation from Normal Myocardium to a Ba\(^{2+}\), K\(^{-}\)-induced Slow Response Zone in Rabbit Left Atrium. Masako Oya Masuda and Antonio Paes de Carvalho

Rapid Reseating of the Aortic Baroreceptors in the Rabbit and Its Implications for Short-Term and Longer Term Reflex Control. Patricia K. Dorward, Michael C. Andresen, Sandra L. Burke, Judith R. Oliver, and Paul I. Korner

Letters to the Editor

News from the American Heart Association

No. 4 (April)

Brief Reviews: Growth of Capillaries in Skeletal and Cardiac Muscle. Olga Hudlická

Sodium, Divalent Cations, and Guanine Nucleotides Regulate the Affinity of the Rat Mesenteric Artery Angiotensin II Receptor. Gregory B. Wright, R. Wayne Alexander, Laurie S. Ekstein, and Michael A. Gimbrone, Jr.

Distribution of Choline Acetyltransferase in Cerebral and Extracerebral Cranial Arteries of the Cat: Its Relationship to Neurogenic ATP-sensitive Dilation. J.A. Bevan, G.M. Buja, V.M. Florence, A. Gonsalves, and A. Snowden

Interactions between Intrarenal Epinephrine Receptors and the Renal Baroreceptor in the Control of PRA in Conscious Dogs. Eli R. Farhi, James R. Cant, and A. Clifford Barger

Contribution of Thromboxane to Renal Resistance Changes in the Isolated Perfused Hydronephrotic Rabbit Kidney. Akiyoshi Kawasaki and Philip Needleman

Increased Myothermal Economy of Isometric Force Generation in Compensated Cardiac Hypertrophy Induced by Pulmonary Artery Constriction in the Rabbit: A Characterization of Heat Liberation in Normal and Hypertrophied Right Ventricular Papillary Muscles. Norman R. Alpert and Louis A. Muller

Influence of the Pericardium on Left Ventricular End-Diastolic Pressure-Segment Relations during Early and Later Stages of Experimental Chronic Volume Overload in Dogs. Martin M. LeWinter and Richard Pavelec
Volume Contents

No. 5 (May)

Responses to Cardiac Sympathetic Nerve Stimulation during Maximal Coronary Dilation Produced by Adenosine. U. James Johannsen, Allyn L. Mark, and Melvin L. Marcus 510

The Effects of Diltiazem and Reduced Serum Ionized Calcium on Ischemic Ventricular Fibrillation in the Dog. William T. Clusin, Michael R. Bristow, Donald S. Baim, John S. Schroeder, Patrice Jaillon, Peter Brett, and Donald C. Harrison 518

Electrototonic Interactions Across an Inexcitable Region as a Cause of Ectopic Activity in Acute Regional Myocardial Ischemia: A Study in Intact Porcine and Canine Hearts and Computer Models. Michel J. Janse and Frans J.L. van Capelle 527

Uptake and Tissue Content of Fatty Acids in Dog Myocardium under Normoxic and Ischemic Conditions. G.J. van der Vusse, Th.H.M. Roemen, F.W. Prinzen, W.A. Courmans, and R.S. Reneman 538

Interaction of Adriamycin in Vitro with Cardiac Myofibrillar Proteins. William Lewis, Jerome Kleinerman, and Saul Puszkin 547

Differential Baroreflex Control of Heart Rate and Vascular Resistance in Rabbits: Relative Role of Carotid, Aortic, and Cardiopulmonary Baroreceptors. Gary B. Guo, Marc D. Thames, and Francois M. Abboud 554

Critical Closure in the Canine Pulmonary Vasculature. Ruth Graham, Constance Skoog, Luis Oppenheimer, John Rabson, and Howard S. Goldberg 566


Letters to the Editor 590

News from the American Heart Association 591

Electrophysiological Response of Vascularized Hamster Cardiac Transplants to Ischemia. Robert F. Gilmour, Jr., and Douglas P. Zipes 599

Hormone Receptors of the Baboon Cardiovascular System: Biochemical Characterization of Aortic and Myocardial Cytoplasmic Progesterone Receptors. Alan L. Lin, Henry C. McGill, Jr., and Sydney A. Shain 610


Norepinephrine Sensitivity and Densensitization of Cultured Single Vascular Muscle Cells. Kent Herrmsmeyer and Ron Mason 627

Alterations in Local Cerebral Glucose Utilization during Hemorrhagic Hypotension in the Rat. Helen E. Savaki, Helen Macpherson, and James M. Downey 633


Increase in Intracellular Sodium Ion Activity during Stimulation in Mammalian Cardiac Muscle. Charles J. Cohen, Harry A. Fozzard, and Shey-Shing Shue 651

Determination of Coronary Collateral Flow by a Load Line Analysis. David Wyatt, Jinku Lee, and James M. Downey 663

Limited Maximal Vasodilator Capacity of Forearm Vessels in Normotensive Young Men with a Familial Predisposition to Hypertension. Akira Takeshita, Tsutomu Imazumi, Todaiki Ashihara, Kunihiko Yamamoto, Sumio Hoka, and Motoomi Nakamura 671

Effect of Nitroglycerin and Nifedipine on Subendocardial Perfusion in the Presence of a Flow-Limiting Coronary Stenosis in the Awake Dog. Robert J. Bache and Bruce A. Tockman 678


Cardiac Dynamics during Hemorrhage: Relative Unimportance of Adrenergic Inotropic Responses. Thomas H. Hintze and Stephen F. Vatner 705

Regional Myocardial Blood Flow and Coronary Vascular Reserve in Unanesthetized Young Calves Exposed to a Simulated Altitude of 3500 m for 8–109 Weeks. Murli Manohar, Christine M. Parks, Michael A. Busch, William J. Tranquill, Gerald E. Bisgard, Thomas A. McPherron, and Michael C. Theodorakis 714

Effects of Coronary Arterial Pressure on Left Ventricular End-Systolic Pressure-Volume Relation of Isolated Canine Heart. Konji Sunisaga, W. Lowell Maughan, Gottlieb Friesinger, Pablo Guzman, Mau-Song Chang, and Kiichi Sagawa 727


Biosynthetic Enzyme Activities and Catecholamines in Adrenal Glands of Genetic and Experimental Hypertensive Rats. Horst Grobecker, Juan M. Saavedra, and Virginia K. Weise 742

Letters to the Editor 747

Errata 749

News from the American Heart Association 750

No. 6 (June)

Brief Reviews: Contraction-Excitation Feedback in Myocardium: Physiological Basis and Clinical Relevance. Max J. Lab 757