EDITORIAL:
The Genetic Mucopolysaccharidoses. Victor A. McKusick ..................... 1

ORIGINAL ARTICLES:
Ethacrynic Acid. Effectiveness and Mode of Diuretic Action in Man.
Paul J. Cannon, Henry O. Heinemann, William B. Stason, and John
H. Laragh ........................................................................ 5

Primary Myocardial Disease. Report of Fifty Cases and Review of the
Subject. Rashid A. Massumi, Jorge C. Rios, Alden S. Gooch, Donald
Nutter, Vincent T. De Vita, and Donald W. Datlow .................... 19

The Effects of Smoking on the Cardiac Output at Rest and during
Exercise in Patients with Healed Myocardial Infarction. William S.
Frankl, William L. Winters, and Louis A. Soloff ....................... 42

Analog Computer Model of the Vectorcardiogram. Ronald H. Selvester,
Clarence R. Collier, and Robert B. Pearson ............................. 45

Interventricular Septal Defect. Analysis of 415 Catheterized Cases,
Ninety with Serial Hemodynamic Studies. Weldon J. Walker, Efrain
Garcia-Gonzalez, Robert J. Hall, Stephen W. Czarnecki, Robert B.
Franklin, Sunil K. Das, and Melvin D. Cheitlin .......................... 54

A Clinical Profile of Paroxysmal Hyperpnea in Cyanotic Congenital
Heart Disease. Beverly C. Morgan, Warren G. Guntheroth, Ronald S.
Bloom, and Donald C. Fyler .............................................. 66

Physiologic Studies of Paroxysmal Hyperpnea in Cyanotic Congenital
Heart Disease. Warren G. Guntheroth, Beverly C. Morgan, and Gay
L. Mullins ....................................................................... 70

Effect of Body Build on the QRS Voltage of the Electrocardiogram in
Normal Men. Its Significance in the Diagnosis of Left Ventricular
Hypertrophy. Stanley E. Kilty and Eugene Lepeschkin ................ 77

The Preoperative and Postoperative Vectorcardiogram in Tetralogy of
Fallot. George H. Khoury, James W. DuShane, and Patrick A. Ongley 85

A New Technic for the Detection of Left-to-Right Cardiac Shunts by
Use of an Esophageal Geiger-Müller Tube. Gordon H. Ira, Jr. and
Edward S. Orgain ................................................................ 95

The Limbic Ledge. A Landmark for Transseptal Left Heart Catheteri-
zation. Dennis A. Bloomfield and Bruce C. Sinclair-Smith .......... 103

The Coexistence of Acute Rheumatic Fever and Sickle Cell-Hemo-
globin C Disease. Sheldon A. Lisker, David Finkelstein, Stanley
Schwartz, Keriman Marulyali, and Antonio Valdes-Dapena .......... 108
CONTENTS OF VOLUME XXXI

Constrictive Pericarditis Complicating Disseminated Lupus Erythematosus. Peter M. Yurchak, Samuel A. Levine, and Richard Gorlin .......... 113

Corrected Transposition of the Great Vessels with Ebstein Malformation of the Left Atrioventricular Valve. An Embryologic Analysis and Two Case Reports. Arentje Dekker, Ali Mehrizi, and Avinash S. Vengsarkar .................................................. 119

Saccular Aortic Aneurysm due to Aortic Valve Stenosis. Theodore Ditchek and Joseph J. Bookstein ................................. 127

CLINICAL PROGRESS:

ABSTRACTS .................................................................. 142

NEWS FROM THE AMERICAN HEART ASSOCIATION .......... 154

CONTRIBUTORS TO THIS ISSUE .................................... 158

No. 2

EDITORIAL:
The Occasional Open-Heart Surgeon. B. Eiseman and F. C. Spencer ...... 161

ORIGINAL ARTICLES:


Coarctation in the Elderly. M. V. Brainbridge and A. Yen ................... 209

Catecholamine Depletion in Thyrotoxicosis. Effect of Guanethidine on Cardiovascular Dynamics. Sidney Goldstein and Thomas Killip III ........................................... 219

A Method for Measuring Plasma Levels of Digitalis Glycosides. Jerold M. Lowenstein ......................................................... 228


Subclavian Steal in Patients with Blalock-Taussig Anastomosis. Gordon M. Folger, Jr. and Kishor D. Shah ................................. 241

Dynamics of the Collateral Circulation in Patients with Subclavian Steal. Robert J. Marshall and Emil L. Mantini ......................... 249
CONTENTS OF VOLUME XXXI


Cor Triatriatum as a Problem of Adult Heart Disease. Lockhart B. McGuire, Thomas B. Nolan, Richard Reeve, and J. Francis Dammann, Jr. 263

CLINICAL PROGRESS:
The Pathologic Lesions of the Cardiac Autonomic Nervous System in Chronic Chagas' Myocarditis. Kenneth E. Mott and Jack W. C. Hagstrom ........................................... 273

BOOK REVIEWS .................................................. 287
BOOKS RECEIVED ............................................... 301
ABSTRACTS .................................................... 304
NEWS FROM THE AMERICAN HEART ASSOCIATION ................. 316
CONTRIBUTORS TO THIS ISSUE .................................. 319

No. 3

EDITORIAL:
A System for Phenotyping Hyperlipoproteinemia. Donald S. Fredrickson and Robert S. Lees ........................................... 321

ORIGINAL ARTICLES:
The Use of Fiberoptics in Clinical Cardiac Catheterization. I. Intracardiac Oximetry. Walter J. Gamble, Paul G. Hugenholtz, R. Grier Monroe, Michael Polanyi, and Alexander S. Nadas .................................................................................. 328

The Use of Fiberoptics in Clinical Cardiac Catheterization. II. In Vivo Dye-Dilution Curves. Paul G. Hugenholtz, Walter J. Gamble, R. Grier Monroe, and Michael Polanyi .......................................................... 344

Hemodynamic Patterns in Essential Hypertension. Samuel Finkielman, Manuel Worcel, and Alberto Agrest .......................... 356

The Effect of Variations in Blood pH upon the Electrocardiogram in Man. J. Alan Reid, Yale Enson, Réjane M. Harvey, and M. Irene Ferrer .......................................................... 369

Myocardial Function and Left Ventricular Volumes in Acquired Valvular Insufficiency. Graham A. H. Miller, John W. Kirklin, and H. J. C. Swan .................................................. 374

Total Correction of Tetralogy of Fallot. I. Follow-up Study of 104 Cases. Muriel D. Wolf, Bernard Landtman, Catherine A. Neill, and Helen B. Taussig .................................................. 385

Total Correction of Tetralogy of Fallot. II. Changes in the Electrocardiogram following Surgery. Bernard Landtman and Muriel D. Wolf .................................................. 394

Electrocardiographic “Peri-Infarction Block.” A Clinical and Pathologic Correlation. C. Hilmon Castle and William M. Keane .......................... 403

Hemodynamic Studies during Angina Pectoris. Lawrence S. Cohen, William C. Elliott, Ellis L. Rolet, and Richard Gorlin .................................................. 409

Stroke Volume and Peripheral Resistance during Infusion of Isoproterenol at a Constant Fixed Heart Rate. Alberto Benchimol, Evandro G. Lucena, and E. Grey Dimond .................................................. 417

A Study of the Q-1 Interval in Atrial Fibrillation with and without Mitral Stenosis. Morton E. Tavel, Harvey Feigenbaum, and Richard W. Campbell .................................................. 429

Circulation, Volume XXXI, June 1965
CONTENTS OF VOLUME XXXI

Congenital Absence versus Acquired Attenuation of One Pulmonary Artery. Rashid A. Massumi and Robert F. Donohoe ........................................ 436

Recurrent Valvular Aortic Stenosis after Open Aortic Valvuloplasty. A. R. C. Dobell, A. Martinez-Caro, and D. R. Murphy ........................................ 448

Treatment of Acute Bacterial Endocarditis by Valve Excision and Replacement. Andrew G. Wallace, W. Glenn Young, Jr., and Suydam Osterhout ........................................ 450

CLINICAL PROGRESS:
Hyperbaric Oxygen in Cardiovascular Disease. Potential Usages and Hazards. Herbert A. Saltzman ........................................ 454

ABSTRACTS .......................................................................................... 463

NEWS FROM THE AMERICAN HEART ASSOCIATION .......................... 476

CONTRIBUTORS TO THIS ISSUE ....................................................... 479

No. 4

EDITORIAL:
Pressures and Pulses. Eugene A. Stead, Jr. ........................................ 481

ORIGINAL ARTICLES:
Clinical Features of Fluid Retention Complicating Treatment with Guanethidine. A. J. Smith ........................................ 485


Work Experience of Cardiac Patients Following Referral to a Work Evaluation Unit. Samuel W. Stein and George E. Altman ........................................ 497

Severe Mitral Regurgitation Secondary to Ruptured Chordae Tendineae. Charles A. Sanders, J. Gordon Scannell, J. Warren Harthorne, and W. Gerald Austen ........................................ 506

Competence of the Tricuspid Valve in Pulmonary Heart Disease (Cor Pulmonale). Warren T. Sherman, M. Irene Ferrer, and Réjane M. Harvey ........................................ 517


Right Ventricular Volumes in Patients with and without Heart Failure. Elliot Rapaport, Maylene Wong, Richard E. Ferguson, Philip Bernstein, and Bernard D. Wiegand ........................................ 531

Relation of Arterial Blood Pressure to the Transverse Diameter of the Heart in Compensated Hypertensive Heart Disease. Eli A. Ramirez and Pedro H. Garcia Pont ........................................ 542


<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Communication between the Aorta and Left Ventricle. Aortico-Left Ventricle Tunnel.</td>
<td>Robert N. Cooley, Leonard C. Harris, and Alvin E. Rodin</td>
<td>564</td>
</tr>
<tr>
<td>Chronic Atrial Flutter in Brothers with the Marfan Syndrome.</td>
<td>P. Benny Cipolloni, Jr., Stanley R. Shane, and Robert J. Marshall</td>
<td>572</td>
</tr>
<tr>
<td>Myotic False Aneurysm of the Aorta Following Aortic Valvular Prosthesis. A Case Report.</td>
<td>Nobuhisa Baba and Trevor L. McKissick</td>
<td>575</td>
</tr>
<tr>
<td>Partial Anomalous Pulmonary Venous Drainage with Intact Interventricular Septum Associated with Congenital Mitral Stenosis.</td>
<td>Harold E. Aldridge and E. Douglas Wigle</td>
<td>579</td>
</tr>
<tr>
<td>CLINICAL PROGRESS:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symposium: Left Ventricular Outflow Tract Obstruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction.</td>
<td>Herrman L. Blumgart</td>
<td>585</td>
</tr>
<tr>
<td>Pathology of Left Ventricular Outflow Tract Obstruction.</td>
<td>Jesse E. Edwards</td>
<td>586</td>
</tr>
<tr>
<td>Recognition of Left Ventricular Outflow Obstruction.</td>
<td>J. David Bristow</td>
<td>600</td>
</tr>
<tr>
<td>Obstructive Lesions of the Left Ventricular Outflow Tract. Surgical Treatment.</td>
<td>Denton A. Cooley, Arthur C. Beall, Jr., Grady L. Hillman, and Donald L. Bricker</td>
<td>612</td>
</tr>
<tr>
<td>ABSTRACTS</td>
<td></td>
<td>622</td>
</tr>
<tr>
<td>NEWS FROM THE AMERICAN HEART ASSOCIATION</td>
<td></td>
<td>631</td>
</tr>
<tr>
<td>CONTRIBUTORS TO THIS ISSUE</td>
<td></td>
<td>639</td>
</tr>
</tbody>
</table>

No. 5

EDITORIALS:

The Closed-Chest Method of Cardiopulmonary Resuscitation—Revised Statement | 641

A Further Note on the History of the Classification of Cardiovascular Diagnosis. Paul D. White | 644

ORIGINAL ARTICLES:

The Relation between the Location of Coronary Occlusions and the Occurrence of Shock in Acute Myocardial Infarction. George S. Kurland, Charles Weingarten, and Bertram Pitt | 646


Hypotensive Effect of Ethacrynic Acid. James Conway and Gastone Leonetti | 661

The Prognosis in Aortic Dissection (Dissecting Aortic Hematoma or Aneurysm). Randolph M. McCloy, John A. Spittell, Jr., and Dwight C. McGoon | 665

The Changes in Cardiac Output with Reversion of Atrial Fibrillation to Sinus Rhythm. James J. Morris, Jr., Mark Entman, William C. North, Yihong Kong, and Henry McIntosh | 670

Measurement of Unilateral Renal Function by External Ureteral Compression. William M. Hamby and Lionel M. Bernstein | 679
CONTENTS OF VOLUME XXXI

Plasma Renin Activity in Acute Tubular Necrosis and Other Renal Diseases Associated with Hypertension. W. H. Tu ........................................ 686

Hemodynamic Effects of Cerebral Arteriovenous Aneurysms. John M. Wallace, Blaine S. Nashold, Jr., and Anthony P. Slewka ............... 696


Calculation of Cardiac Output from Indicator-Dilution Curves in the Presence of Mitral Regurgitation. Shahbudin H. Rahimtoola and H. J. C. Swan ........................................ 711

The T-V1>T-V6 Pattern for Electrocardiographic Diagnosis of Left Ventricular Hypertrophy and Ischemia. Sensitivity and Specificity. Noboru Okamoto, Ernst Simonson, and Henry Blackburn ........ 719


Salmonella Aortitis in a Patient with a Hufnagel Valve. Louis Weinstein and Kenneth Kaplan ........................................ 755

Bronchial Circulation in Severe Multiple Peripheral Pulmonary Artery Stenosis. Case Report Illustrating the Origin of Continuous Murmur. Martin H. Lees and Charles T. Dotter ........................................ 759


CLINICAL PROGRESS:

ABSTRACTS ........................................ 785

NEWS FROM THE AMERICAN HEART ASSOCIATION ......................... 795

CONTRIBUTORS TO THIS ISSUE ........................................ 799

No. 6

EDITORIAL:
Heart Sounds from Starr-Edwards Valves. William Dock ........................................ 801

ORIGINAL ARTICLES:
Rheumatic Nephrosclerosis. With Special Reference to Rheumatic Endarteritis. Walter L. Bruetsch ........................................ 805

Hemodynamic Changes in Patients with Acute Myocardial Infarction. Michael Thomas, Raoul Malmerona, and John Shillingford ........................................ 811


Circulation, Volume XXXI, June 1965
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Incidence of Arrhythmias in Acute Myocardial Infarction Studied with a Constant Monitoring System. George S. Kurland and David Pressman</td>
<td>834</td>
</tr>
<tr>
<td>Cineradiographic Studies of the Early Systolic Click in Aortic Valve Stenosis. Ellis J. Epstein, J. Michael Criley, Edward B. Raftery, J. O'Neal Humphries, and Richard S. Ross</td>
<td>842</td>
</tr>
<tr>
<td>Studies of Male Survivors of Myocardial Infarction. IV. Serum Lipids and Five-Year Survival. J. Alick Little, Henry M. Shanoff, Robert D. Roe, Adele Csima, and Ruth Yano</td>
<td>854</td>
</tr>
<tr>
<td>The Effect of a β-Adrenergic-Blocking Agent (Nethalide) and Nitroglycerin on Exercise Tolerance in Angina Pectoris. Rex N. MacAlpin, Albert A. Kattus, and Mark E. Winfield</td>
<td>869</td>
</tr>
<tr>
<td>Masked Infundibular Pulmonary Obstruction in Ventricular Septal Defect with Pulmonary Hypertension. John H. K. Vogel and S. Gilbert Blount, Jr.</td>
<td>876</td>
</tr>
<tr>
<td>Electrocardiographic Findings Among the Adult Population of a Total Natural Community, Tecumseh, Michigan. L. D. Ostrander, Jr., Ralph L. Brandt, Marcus O. Kjelsberg, and Frederick H. Epstein</td>
<td>888</td>
</tr>
<tr>
<td>The Thoracic Duct. Significance of Age-Related Changes and of Lipid in the Wall. Adolph J. Rabinovitz and Otto Saphir</td>
<td>899</td>
</tr>
<tr>
<td>CLINICAL PROGRESS:</td>
<td></td>
</tr>
<tr>
<td>Coronary Heart Disease in Chronic Schizophrenic Patients. A Clinico-pathologic Study. Allen E. Hussar</td>
<td>919</td>
</tr>
<tr>
<td>ABSTRACTS</td>
<td>930</td>
</tr>
<tr>
<td>COMMITTEE REPORTS:</td>
<td></td>
</tr>
<tr>
<td>Prevention of Rheumatic Fever</td>
<td>948</td>
</tr>
<tr>
<td>Prevention of Bacterial Endocarditis</td>
<td>953</td>
</tr>
<tr>
<td>NEWS FROM THE AMERICAN HEART ASSOCIATION</td>
<td>955</td>
</tr>
<tr>
<td>CONTRIBUTORS TO THIS ISSUE</td>
<td>959</td>
</tr>
<tr>
<td>VOLUME AUTHOR INDEX</td>
<td>961</td>
</tr>
<tr>
<td>VOLUME SUBJECT INDEX</td>
<td>963</td>
</tr>
</tbody>
</table>