<table>
<thead>
<tr>
<th>Subject Index</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td></td>
</tr>
<tr>
<td>Abdominal aortic aneurysm</td>
<td></td>
</tr>
<tr>
<td>· Relaxin and Matrix Metalloproteinase-9 in Angiotensin II-Induced Abdominal Aortic Aneurysms</td>
<td>888</td>
</tr>
<tr>
<td>· Oral Steroid Use and Abdominal Aortic Aneurysm Expansion — Positive Association —</td>
<td>1774</td>
</tr>
<tr>
<td>Ablation</td>
<td></td>
</tr>
<tr>
<td>· What Is the Acute Antral Lesion Size After Pulmonary Vein Isolation Using Different Balloon Ablation Technologies?</td>
<td>172</td>
</tr>
<tr>
<td>Acetyicholine</td>
<td></td>
</tr>
<tr>
<td>· Enhancement of Nitric Oxide Production Is Responsible for Minimal Intimal Hyperplasia of Autogenous Rabbit Arterial Grafts</td>
<td>1222</td>
</tr>
<tr>
<td>Acute coronary syndrome</td>
<td></td>
</tr>
<tr>
<td>· Association Between Prior Aspirin Use and Morphological Features of Culprit Lesions at First Presentation of Acute Coronary Syndrome Assessed by Optical Coherence Tomography</td>
<td>511</td>
</tr>
<tr>
<td>· Barriers Associated With Door-to-Balloon Delay in Contemporary Japanese Practice</td>
<td>815</td>
</tr>
<tr>
<td>Acute decompensated heart failure</td>
<td></td>
</tr>
<tr>
<td>· Tolvaptan Reduces the Risk of Worsening Renal Function in Patients With Acute Decompensated Heart Failure and Preserved Left Ventricular Ejection Fraction — Prospective Randomized Controlled Study</td>
<td>740</td>
</tr>
<tr>
<td>Acute kidney injury</td>
<td></td>
</tr>
<tr>
<td>· Acute Kidney Injury Following Cardiopulmonary Bypass in Children — Risk Factors and Outcomes</td>
<td>1522</td>
</tr>
<tr>
<td>Acute myocardial infarction</td>
<td></td>
</tr>
<tr>
<td>· Value of 3-Dimensional Speckle Tracking Echocardiography in the Prediction of Microvascular Obstruction and Left Ventricular Remodeling in Patients With ST-Elevation Myocardial Infarction</td>
<td>353</td>
</tr>
<tr>
<td>· Age-Specific Trends in the Incidence and In-Hospital Mortality of Acute Myocardial Infarction Over 30 Years in Japan — Report From the Miyagi AMI Registry Study —</td>
<td>520</td>
</tr>
<tr>
<td>· QRS Score at Presentation Electrocardiogram Is Correlated With Infarct Size and Mortality in ST-Segment Elevation Myocardial Infarction Patients Undergoing Primary Percutaneous Coronary Intervention</td>
<td>1129</td>
</tr>
<tr>
<td>· Early Repolarization Pattern Predicts the Increased Risk of Ventricular Arrhythmias in Patients With Acute Anterior ST-Segment Elevation Myocardial Infarction — A Propensity Analysis</td>
<td>1346</td>
</tr>
<tr>
<td>· Temporal Trends in the Incidence and Clinical Features of Acute Myocardial Infarction in a Japanese Rural Area From 2006 to 2014</td>
<td>1854</td>
</tr>
<tr>
<td>· Depleted Leukocyte Mitochondrial DNA Copy Number Correlates With Unfavorable Left Ventricular Volumetric and Spherical Shape Remodeling in Acute Myocardial Infarction After Primary Angioplasty</td>
<td>1901</td>
</tr>
<tr>
<td>Adaptive servo-ventilation</td>
<td></td>
</tr>
<tr>
<td>· Sleep-Disordered Breathing in Heart Failure — A Therapeutic Dilemma</td>
<td>903</td>
</tr>
<tr>
<td>Aging</td>
<td></td>
</tr>
<tr>
<td>· Age-Specific Trends in the Incidence and In-Hospital Mortality of Acute Myocardial Infarction Over 30 Years in Japan — Report From the Miyagi AMI Registry Study</td>
<td>520</td>
</tr>
<tr>
<td>· Age-Specific Differences in the Duration of Prehospital Cardiopulmonary Resuscitation Administered by Emergency Medical Service Providers Necessary to Achieve Favorable Neurological Outcome After Out-of-Hospital Cardiac Arrest</td>
<td>652</td>
</tr>
<tr>
<td>· Fluctuation of Dynamic Diastolic Function Relative to Static Cardiac Structure — New Insights Into the Underlying Mechanism of Heart Failure With Preserved Ejection Fraction in Elderly Patients</td>
<td>755</td>
</tr>
<tr>
<td>· Characteristics and Prognosis of Pacemaker-Identified New-Onset Atrial Fibrillation in Japanese People</td>
<td>794</td>
</tr>
<tr>
<td>· Sudden Death Phenomenon While Bathing in Japan — Mortality Data</td>
<td>1144</td>
</tr>
<tr>
<td>Aldehyde dehydrogenase 2</td>
<td></td>
</tr>
<tr>
<td>· Variant Aldehyde Dehydrogenase 2 (ALDH2*2) in East Asians Interactively Exacerbates Tobacco Smoking Risk for Coronary Spasm — Possible Role of Reactive Aldehydes</td>
<td>96</td>
</tr>
<tr>
<td>Anemia</td>
<td></td>
</tr>
<tr>
<td>· Effect of Anemia on Cardiovascular Hemodynamics, Therapeutic Strategy and Clinical Outcomes in Patients With Heart Failure and Hemodynamic Congestion</td>
<td>1670</td>
</tr>
<tr>
<td>Aneurysm</td>
<td></td>
</tr>
<tr>
<td>· Evaluation and Influence of Brachiocephalic Branch Re-entry in Patients With Type A Acute Aortic Dissection</td>
<td>30</td>
</tr>
<tr>
<td>Angina</td>
<td></td>
</tr>
<tr>
<td>· Myocardial Bridges on Coronary Computed Tomography Angiography — Correlation With Intravascular Ultrasound and Fractional Flow Reserve</td>
<td>1894</td>
</tr>
<tr>
<td>Angiogenesis</td>
<td></td>
</tr>
<tr>
<td>· Dipeptidyl Peptidase-IV Inhibition for the Treatment of Cardiovascular Disease — Recent Insights Focusing on Angiogenesis and Neovascularization</td>
<td>770</td>
</tr>
<tr>
<td>· Diallyl Trisulfide Augments Ischemia-Induced Angiogenesis via an Endothelial Nitric Oxide Synthase-Dependent Mechanism</td>
<td>870</td>
</tr>
<tr>
<td>· Imbalanced Angiogenesis in Peripartum Cardiomyopathy — Diagnostic Value of Placenta Growth Factor</td>
<td>1654</td>
</tr>
<tr>
<td>Angioscopy</td>
<td></td>
</tr>
<tr>
<td>· Effect of Ezetimibe on Stabilization and Regression of Intracoronary Plaque — The ZIPANGU Study</td>
<td>1611</td>
</tr>
<tr>
<td>Angiotensin</td>
<td></td>
</tr>
<tr>
<td>· Differential Effects of Myocardial Afadin on Pressure Overload-Induced Compensated Cardiac Hypertrophy</td>
<td>1862</td>
</tr>
<tr>
<td>Anticoagulation</td>
<td></td>
</tr>
<tr>
<td>· Clinical Significance of Hematuria in Atrial Fibrillation With Oral Anticoagulation Therapy</td>
<td>158</td>
</tr>
<tr>
<td>· Relationship Between Infarct Volume and Prothrombin Time-International Normalized Ratio in Ischemic Stroke Patients With Nonvalvular Atrial Fibrillation</td>
<td>391</td>
</tr>
<tr>
<td>· Short-Term Subcutaneous Fondaparinux and Oral Edoxaban for Acute Venous Thromboembolism</td>
<td>855</td>
</tr>
<tr>
<td>· Prothrombin Complex Concentrate for Vitamin K Antagonist-Associated Intracranial Hemorrhage — Global Evidence and the Japanese Perspective</td>
<td>1564</td>
</tr>
<tr>
<td>· Asymptomatic Lower Extremity Deep Vein Thrombosis — Clinical Characteristics, Management Strategies, and Long-Term Outcomes</td>
<td>1936</td>
</tr>
<tr>
<td>Antiplatelet therapy</td>
<td></td>
</tr>
<tr>
<td>· Decreased Serum Albumin Predicts Bleeding Events in Patients on Antiplatelet Therapy After Percutaneous Coronary Intervention</td>
<td>999</td>
</tr>
</tbody>
</table>

**Circulation Journal** Vol.81, December 2017
Thromboembolic Pulmonary Hypertension Treated With Balloon Pulmonary Angioplasty 552

Biomarker
- Initial Blood Ammonia Level Is a Useful Prognostication Tool in Out-of-Hospital Cardiac Arrest — Multicenter Prospective Study (SOS-KANTO 2012 Study) — 1839

Blood flow
- Pathophysiology of Intermittent Claudication in Peripheral Artery Disease 281

Body mass index
- Effect of Obesity on the Prognostic Impact of Atrial Fibrillation in Heart Failure With Preserved Ejection Fraction 966
- Surface Electrocardiogram Screening for Subcutaneous Implantable Cardioverter-Defibrillators in Japanese Patients With and Without Brugada Syndrome 981
- Association Between Waist-to-Height Ratio and Endothelial Dysfunction in Patients With Morbidity — A Report From the FMD-J Study — 1911

Brugada syndrome
- Modeling Inherited Arrhythmia Disorders Using Induced Pluripotent Stem Cell-Derived Cardiomyocytes 12
- The Brugada Syndrome — From Gene to Therapy — 290
- Surface Electrocardiogram Screening for Subcutaneous Implantable Cardioverter-Defibrillators in Japanese Patients With and Without Brugada Syndrome 981

B-type natriuretic peptide
- Improvement in the Quality of Life and Exercise Performance in Relation to the Plasma B-Type Natriuretic Peptide Level After Catheter Ablation in Patients With Asymptomatic Persistent Atrial Fibrillation 444
- B-Type Natriuretic Peptide in Heart Failure With Preserved Ejection Fraction — Relevance to Age-Related Left Ventricular Modeling in Japanese — 1006
- Galectin-3 and the Mineralocorticoid Receptor Antagonist Canrenone in Mild Heart Failure 1543

Cardiac arrest
- Cerebral Hemodynamics and Metabolism During Cardiac Arrest and Cardiopulmonary Resuscitation Using Hyperspectral Near Infrared Spectroscopy 879
- Sudden Death Phenomenon While Bathing in Japan — Mortality Data — 1144
- Useful Computed Tomography Score for Estimation of Early Neurologic Outcome in Post-Cardiac Arrest Patients With Therapeutic Hypothermia 1628

Cardiac hypertrophy
- Differential Effects of Myocardial Arafin on Pressure Overload-Induced Compensated Cardiac Hypertrophy 1862

Cardiac magnetic resonance imaging
- Asymptomatic Cocaine Abuse — Myocardial Tissue Characterization Using Cardiac Biomarkers and Cardiovascular Magnetic Resonance Imaging — 701
- The Effects of Hydrogen Gas Inhalation on Adverse Left Ventricular Remodeling After Percutaneous Coronary Intervention for ST-Elevated Myocardial Infarction — First Pilot Study in Humans — 940
- Identification and Assessment of Cardiac Amyloidosis by Myocardial Strain Analysis of Cardiac Magnetic Resonance Imaging 1014
- Assessment of Left Ventricular Function and Mass on Free-Breathing Compressed Sensing Real-Time Cine Imaging 1463

Cardiac rehabilitation
- Underuse of Cardiac Rehabilitation in Workers With Coronary Artery Disease — Claims Database Survey in Japan — 1424

Cardiac resynchronization therapy
- Prediction of Both Electrical and Mechanical Reverse Remodeling on Acute Electrocardiogram Changes After Cardiac Resynchronization Therapy 1322
- Survival and Heart Failure Hospitalization in Patients With Cardiac Resynchronization Therapy With or Without a Defibrillator for Primary Prevention in Japan — Analysis of the Japan Cardiac Device Treatment Registry Database — 1798

Cardiac sarcoidosis
- Trends in Hospitalizations for Cardiac Sarcoidosis in the United States, 2005-2011 1739

Cardiac standstill
- Efficacy of Precordial Percussion Pacing Assessed in a Cardiac Standstill Micromininpig Model 1137

Cardiac surgery
- Long-Term Outcome of Cardiac Surgery in 1,040 Liver Cirrosis Patient — Nationwide Population-Based Cohort Study — 476
- Acute Kidney Injury Following Cardiopulmonary Bypass in Children — Risk Factors and Outcomes — 1522

Cardiac volume
- Assessment of Left Ventricular Function and Mass on Free-Breathing Compressed Sensing Real-Time Cine Imaging 1463

Cardiology
- European Society of Cardiology (ESC) Annual Congress Report From Barcelona 2017 1758

Cardiomyopathy
- Utility of High-Resolution Magnetocardiography to Predict Later Cardiac Events in Nonischemic Cardiomyopathy Patients With Normal QRS Duration 44
- Myocardial Regeneration for Humans — Modifying Biology and Manipulating Evolution — 142
- Biphasic Force-Frequency Relation Predicts Primary Cardiac Events in Patients With Hypertrophic Cardiomyopathy 368
- Significance and Value of Endomyocardial Biopsy Based on Our Own Experience 417

Cardiopulmonary bypass
- Acute Kidney Injury Following Cardiopulmonary Bypass in Children — Risk Factors and Outcomes — 1522

Cardiopulmonary resuscitation
- Age-Specific Differences in the Duration of Prehospital Cardiopulmonary Resuscitation Administered by Emergency Medical Service Providers Necessary to Achieve Favorable Neurological Outcome After Out-of-Hospital Cardiac Arrest 652
- Cerebral Hemodynamics and Metabolism During Cardiac Arrest and Cardiopulmonary Resuscitation Using Hyperspectral Near Infrared Spectroscopy 879

Cardiovascular death
- Association Between Serum Vitamin D and All-Cause and Cause-Specific Death in a General Japanese Population — The Hisayama Study — 1315

Cardiovascular disease
- Chromium Exposure and Risk of Cardiovascular Disease in High Cardiovascular Risk Subjects — Nested Case-Control Study in the Prevention With Mediterranean Diet (PREDIMED) Study — 1183
- ANGPTL2 — A New Causal Player in Accelerating Heart Disease Development in the Aging — 1379

Carotid plaque
- Association of Kidney Dysfunction With Asymptomatic Cerebrovascular Abnormalities in a Japanese Population With Health Checkups 1191

Catheter ablation
- Early and Late Atrial Arrhythmias After Lung Transplantation — Incidence, Predictive Factors and Impact on Mortality — 660
Subject Index

Circulation Journal Vol.81, December 2017

Dilated cardiomyopathy
- Three-Dimensional Left Ventricular Torsion in Patients With Dilated Cardiomyopathy — A Marker of Disease Severity — 529

Dissection
- Evaluation and Influence of Brachiocephalic Branch Re-entry in Patients With Type A Acute Aortic Dissection 30

Diuretics
- Tolvaptan Reduces the Risk of Worsening Renal Function in Patients With Acute Decompensated Heart Failure and Preserved Left Ventricular Ejection Fraction — Prospective Randomized Controlled Study — 740
- Comparative Effects of an Angiotensin II Receptor Blocker (ARB)/Diuretic vs. ARB/Calcium-Channel Blocker Combination on Uncontrolled Nocturnal Hypertension Evaluated by Information and Communication Technology-Based Nocturnal Home Blood Pressure Monitoring — The NOCTURNE Study — 948

Drug-eluting stent
- Prospective Identification of Stent Fracture by Enhanced Stent Visualization System During Percutaneous Coronary Intervention — 82
- Bioreosorbable Vascular Scaffolds — Are We Facing a Time of Crisis or One of Breakthrough? — 1065

Dyslipidemia
- One-Year Efficacy and Safety of Evolocumab in Japanese Patients — A Pooled Analysis From the Open-Label Extension OSLER Studies — 1029

Echocardiography
- Impact of Mitral Annular Displacement on Left Ventricular Diastolic Function Improvement After Transcatheter Aortic Valve Implantation — 558
- Mechanisms of Left Ventricular Dysfunction Assessed by Layer-Specific Strain Analysis in Patients With Repaired Tetralogy of Fallot — 846

Elderly
- Clinical Characteristics and Social Frailty of Super-Elderly Patients With Heart Failure — The Kitakawachi Clinical Background and Outcome of Heart Failure Registry — 69

Electrocardiogram
- Early Repolarization Pattern Predicts the Increased Risk of Ventricular Arrhythmias in Patients With Acute Anterior ST-Segment Elevation Myocardial Infarction — A Propensity Analysis — 1346

Electrophysiology
- Development of a Patient-Derived Induced Pluripotent Stem Cell Model for the Investigation of SCN5A-D1275N-Related Cardiac Sodium Channelopathy — 1783
- Electrophysiological Characteristics and Radiofrequency Catheter Ablation Treatment of Idiopathic Ventricular Arrhythmias Successfully Ablated From the Ostium of the Coronary Sinus — 1807

Endocarditis
- Recent Surgical Results for Active Endocarditis Complicated With Perivalvular Abscess — 1721

Endothelial cells
- Dipeptidyl Peptidase-IV Inhibition for the Treatment of Cardiovascular Disease — Recent Insights Focusing on Angiogenesis and Neovascularization — 770

Endothelial dysfunction
- Neurohumoral and Endothelial Responses to Heated Water-Based Exercise in Resistant Hypertensive Patients — 339
- Association Between Waist-to-Height Ratio and Endothelial Dysfunction in Patients With Morbidity — A Report From the FMD-I Study — 1911

Endothelial function
- Endothelial Function in Children and Adolescents Is Mainly Influenced by Age, Sex and Physical Activity — An Analysis of Reactive Hyperemic Peripheral Artery Tonometry — 717

Endothelial progenitor cells
- Dipeptidyl Peptidase-IV Inhibition for the Treatment of Cardiovascular Disease — Recent Insights Focusing on Angiogenesis and Neovascularization — 770

Dilatation pathology
- Coronary Microvascular Dysfunction — Epidemiology, Pathogenesis, Prognosis, Diagnosis, Risk Factors and Therapy — 3

Creatine kinase
- Long-Term Outcomes of Non-ST-Elevation Myocardial Infarction Without Creatine Kinase Elevation — The J-MINUET Study — 958

Critical limb ischemia
- Long-Term Outcomes After Percutaneous Lower Extremity Arterial Interventions With Atherectomy vs. Balloon Angioplasty — Propensity Score-Matched Registry — 376
- Pilot Cohort Study Assessing the Efficacy of Endovascular Revascularization in the Restoration of Peripheral Sensory Disturbance in Patients With Critical Limb Ischemia — 1919

Cytokines
- Cytokine Response to Diet and Exercise Affects Atheromatous Matrix Metalloproteinase-2/9 Activity in Mice — 1528
- Increased Carotid Artery Lesion Inflammation Upon Treatment With the CD137 Agonistic Antibody 2A — 1945

Deep vein thrombosis

Diabetes mellitus
- Empagliflozin and Cardiovascular Outcomes in Asian Patients With Type 2 Diabetes and Established Cardiovascular Disease — Results From EMPA-REG OUTCOME® — 227
- Effect of Dipeptidyl Peptidase-4 Inhibitors on Cardiovascular Outcome and Cardiac Function in Patients With Diabetes and Heart Failure — Insights From the Ibaraki Cardiac Assessment Study-Heart Failure (ICAS-HF) Registry — 1662

Diabetes
- Role of Adipokines in Cardiovascular Disease — 920
- Chromium Exposure and Risk of Cardiovascular Disease in High Cardiovascular Risk Subjects — Nested Case-Control Study in the Prevention With Mediterranean Diet (PREDIMED) — 1183

Diuretics
- Tolvaptan Reduces the Risk of Worsening Renal Function in Patients With Acute Decompensated Heart Failure and Preserved Left Ventricular Ejection Fraction — Prospective Randomized Controlled Study — 740
- Comparative Effects of an Angiotensin II Receptor Blocker (ARB)/Diuretic vs. ARB/Calcium-Channel Blocker Combination on Uncontrolled Nocturnal Hypertension Evaluated by Information and Communication Technology-Based Nocturnal Home Blood Pressure Monitoring — The NOCTURNE Study — 948
Endovascular therapy
- Clinical Outcomes of Repetition of Drug-Coated Balloon for Femoropopliteal Restenosis After Drug-Coated Balloon Treatment 993
- Pilot Cohort Study Assessing the Efficacy of Endovascular Revascularization in the Restoration of Peripheral Sensory Disturbance in Patients With Critical Limb Ischemia 1919

Epidemiology
- Age-Specific Trends in the Incidence and In-Hospital Mortality of Acute Myocardial Infarction Over 30 Years in Japan — Report From the Miyagi AMI Registry Study 520
- Age-Specific Differences in the Duration of Prehospital Cardiopulmonary Resuscitation Administered by Emergency Medical Service Providers Necessary to Achieve Favorable Neurological Outcome After Out-of-Hospital Cardiac Arrest 652
- Impact of Hypertension and Subclinical Organ Damage on the Incidence of Cardiovascular Disease Among Japanese Residents at the Population and Individual Levels — The Circulatory Risk in Communities Study (CIRCS) 1022
- Sudden Death Phenomenon While Bathing in Japan — Mortality Data 1144
- Risk of Ischemic Stroke in Patients With Non-Valvular Atrial Fibrillation Not Receiving Oral Anticoagulants — Korean Nationwide Population-Based Study 1158
- Low Heart Rate Variability and Sympathetic Dominance Modifies the Association Between Insulin Resistance and Metabolic Syndrome — The Toon Health Study 1447
- Development of a Basic Risk Score for Incident Atrial Fibrillation in a Japanese General Population — The Suita Study 1580
- Morning and Evening Blood Pressures Are Associated With Intima-Media Thickness in a General Population — The Hisayama Study 1647
- Trends in Hospitalizations for Cardiac Sarcoidosis in the United States, 2005–2011 1739
- Association of Airflow Limitation With Carotid Atherosclerosis in a Japanese Community — The Hisayama Study 1846
- Temporal Trends in the Incidence and Clinical Features of Acute Myocardial Infarction in a Japanese Rural Area From 2006 to 2014 1854

Everolimus-eluting stent
- Stent Fracture and Peri-Stent Contrast Staining After Everolimus-Eluting Stent Implantation — 5-Year Outcomes 1514

Exercise
- Impact of Plasma Kynurenine Level on Functional Capacity and Outcome in Heart Failure — Results From Studies Investigating Co-morbidities Aggravating Heart Failure (SICA-HF) 52
- Pathophysiology of Intermittent Claudication in Peripheral Artery Disease 281

Extracorporeal membrane oxygenation
- Atrial Septostomy for Left Atrial Decompression During Extracorporeal Membrane Oxygenation by Inoue Balloon Catheter 1419

Fractional flow reserve
- Applicability of 3-Dimensional Quantitative Coronary Angiography-Derived Computed Fractional Flow Reserve for Intermediate Coronary Stenosis 988
- Noninvasive Fractional Flow Reserve Derived From Coronary Computed Tomography Angiography — Is This Just Another New Diagnostic Test or the Long-Awaited Game Changer? 1085
- One-Year Outcome of Fractional Flow Reserve-Based Coronary Intervention in Japanese Daily Practice — CVIT-DEFER Registry 1301
- Prevalence of Thin-Cap Fibroatheroma in Relation to the Severity of Anatomical and Physiological Stenosis 1816
- Myocardial Bridges on Coronary Computed Tomography Angiography — Correlation With Intravascular Ultrasound and Fractional Flow Reserve 1894

Functional mitral regurgitation
- Mitral Valve Structure in Addition to Myocardial Viability Determines the Outcome of Functional Mitral Regurgitation After Coronary Artery Bypass Grafting 1620
- Predictors and Clinical Impact of Functional Mitral Stenosis Induced by Restrictive Annuloplasty for Ischemic and Functional Mitral Regurgitation 1832

Gene therapy
- Myocardial Regeneration for Humans — Modifying Biology and Manipulating Evolution 142

Genes
- Stenotic Bicuspid and Tricuspid Aortic Valves — Micro-Computed Tomography and Biological Indices of Calcification 1043

Genetics
- The Brugada Syndrome — From Gene to Therapy 290
- The Complex Genetic Basis of Congenital Heart Defects 629

Heart arrest
- Initial Blood Ammonia Level Is a Useful Prognostication Tool in Out-of-Hospital Cardiac Arrest — Multicenter Prospective Study (SOS-KANTO 2012 Study) 1839

Heart failure
- Utility of High-Resolution Magnetocardiography to Predict Later Cardiac Events in Nonischemic Cardiomyopathy Patients With Normal QRS Duration 44
- Impact of Plasma Kynurenine Level on Functional Capacity and Outcome in Heart Failure — Results From Studies Investigating Co-morbidities Aggravating Heart Failure (SICA-HF) 52
- Clinical Characteristics and Social Frailty of Super-Elderly Patients With Heart Failure — The Kitakawachi Clinical Background and Outcome of Heart Failure Registry 69
- Prognostic Impact of Atrial Fibrillation and New Risk Score of Its Onset in Patients at High Risk of Heart Failure — A Report From the CHART-2 Study 185
- Riser Pattern Is a Novel Predictor of Adverse Events in Heart Failure Patients With Preserved Ejection Fraction 220
- Heart Transplantation in Asia 617
- Long-Term Prognosis of Patients With Left Ventricular Noncompaction — Comparison Between Infantile and Juvenile Types 694
- Neurohumoral Modulation During Waon Therapy in Chronic Heart Failure — Subanalysis of Waon-CHF Study 709
- Sleep-Disordered Breathing in Heart Failure — A Therapeutic Dilemma 903
- Role of Adipokines in Cardiovascular Disease 920
- Effect of Obesity on the Prognostic Impact of Atrial Fibrillation in Heart Failure With Preserved Ejection Fraction 966
- Prognostic Value of Chronic Kidney Disease Measures in Patients With Cardiac Disease 1075
- Improvement in Exercise Capacity by Exercise Training Associated With Favorable Clinical Outcomes in Advanced Heart Failure With High B-Type Natriuretic Peptide Level 1307
Subject Index

Circulation Journal Vol.81, December 2017

Hypothermia
• Cross-Over Trial of Febuxostat and Topiroxostat for Hyperuricemia With Cardiovascular Disease (TROFEO Trial) — 1707

Imaging
• Prolapse Volume to Prolapse Height Ratio for Differentiating Barlow’s Disease From Fibroelastic Deficiency — 1730

Implantable cardioverter-defibrillator
• The Brugada Syndrome — From Gene to Therapy — — 290

Inflammation
• Sterile Inflammation and Degradation Systems in Heart Failure — 622

Intravascular ultrasound
• Role of the Low-Density Lipoprotein-Cholesterol/High-Density Lipoprotein-Cholesterol Ratio in Predicting Serial Changes in the Lipid Component of Coronary Plaque — 1439

Ischemia
• Pathophysiology of Intermittent Claudication in Peripheral Artery Disease — 281

Ischemic heart disease
• Noninvasive Fractional Flow Reserve Derived From Coronary Computed Tomography Angiography — Is This Just Another New Diagnostic Test or the Long-Awaited Game Changer? — 1085

Ischemic stroke
• Risk of Ischemic Stroke in Patients With Non-Valvular Atrial Fibrillation Not Receiving Oral Anticoagulants — Korean Nationwide Population-Based Study — 1158

Ischemic ventricular arrhythmia
• Ranolazine Facilitates Termination of Ventricular Tachyarrhythmia Associated With Acute Myocardial Ischemia Through Suppression of Late Na⁺-Mediated Focal Activity — 1411

Japan
• Clinical Characteristics and Social Frailty of Super-Elderly Patients With Heart Failure — The Kitakawachi Clinical Background and Outcome of Heart Failure Registry — 69
· Efficacy and Safety of Bococizumab (RN316/PF-04950615), a Monoclonal Antibody Against Proprotein Convertase Subtilisin/Kexin Type 9, in Hypercholesterolemic Japanese Subjects Receiving a Stable Dose of Atorvastatin or Treatment-Naive — Results From a Randomized, Placebo-Controlled, Dose-Ranging Study — 1496

Japanese
· Preprocedural High-Sensitivity C-Reactive Protein Predicts Long-Term Outcome of Percutaneous Coronary Intervention 90
· Favorable Clinical Outcomes of Transcatheter Aortic Valve Implantation in Japanese Patients — First Report From the Post-Approval K-TAVI Registry — 103
· Differences in Dynamic Diurnal Blood Pressure Variability Between Japanese and American Treatment-Resistant Hypertensive Populations 1337
· Trend in the Prevalence of Atrial Fibrillation During the Past 15 Years in Iwate (Northeastern Area of Japan) 1537

Japanese Circulation Society
· Report of the American Heart Association (AHA) Scientific Sessions 2016, New Orleans 22
· Overview of the 81st Annual Scientific Meeting of the Japanese Circulation Society — Cardiovascular Medicine for the Next Generation — 1261

K
Kawasaki disease
· Transcriptional Analysis of Intravenous Immunoglobulin Resistance in Kawasaki Disease Using an Induced Pluripotent Stem Cell Disease Model 110
· Prognostic Significance of QT Interval Dispersion in the Response to Intravenous Immunoglobulin Therapy in Kawasaki Disease 537

Late-breaking clinical trials
· Report of the American Heart Association (AHA) Scientific Sessions 2016, New Orleans 22
· Report of the Annual Scientific Sessions of the American College of Cardiology (ACC), Washington DC 777

Left ventricular function
· Assessment of Left Ventricular Function and Mass on Free-Breathing Compressed Sensing Real-Time Cine Imaging 1463

Left ventricular hypertrophy
· Relationship Between γ-Glutamyltransferase Levels and Left Ventricular Diastolic Dysfunction 823

Leukocytes
· Increased Carotid Artery Lesion Inflammation Upon Treatment With the CD137 Agonistic Antibody 2A 1945

Lipoproteins
· Role of the Low-Density Lipoprotein-Cholesterol/High-Density Lipoprotein-Cholesterol Ratio in Predicting Serial Changes in the Lipid Component of Coronary Plaque 1439

Long-QT syndrome
· Modeling Inherited Arrhythmia Disorders Using Induced Pluripotent Stem Cell-Derived Cardiomyocytes 12
· Mid-Term Follow-up of School-Aged Children With Borderline Long QT Interval 726

M
Magnetic resonance imaging
· Assessment of Left Ventricular Function and Mass on Free-Breathing Compressed Sensing Real-Time Cine Imaging 1463

Matrix metalloproteinase
· Relaxin and Matrix Metalloproteinase-9 in Angiotensin II-Induced Abdominal Aortic Aneurysms 888
· Cytokine Response to Diet and Exercise Affects Atheromatous Matrix Metalloproteinase-2/9 Activity in Mice 1528

Meta-analysis
· Circulating Proprotein Convertase Subtilisin/Kexin Type 9 (PCSK9) Concentration and Risk of Cardiovascular Events — Systematic Review and Meta-Analysis of Prospective Studies — 1150

Metabolic syndrome
· Low Heart Rate Variability and Sympathetic Dominance Modifies the Association Between Insulin Resistance and Metabolic Syndrome — The Toon Health Study — 1447

Mitochondria
· Reperfusion Damage — A Story of Success, Failure, and Hope — 131
· Sterile Inflammation and Degradation Systems in Heart Failure 622

Mitrall regurgitation
· Prolapse Volume to Prolapse Height Ratio for Differentiating Barlow’s Disease From Fibroelastic Deficiency 1730

Mitrall valve
· Prolapse Volume to Prolapse Height Ratio for Differentiating Barlow’s Disease From Fibroelastic Deficiency 1730

Mortality
· Empagliflozin and Cardiovascular Outcomes in Asian Patients With Type 2 Diabetes and Established Cardiovascular Disease — Results From EMPA-REG OUTCOME® — 227
· Early and Late Atrial Arrhythmias After Lung Transplantation — Incidence, Predictive Factors and Impact on Mortality — 660
· Sudden Death Phenomenon While Bathing in Japan — Mortality Data — 1144
· Sex Differences in Severe Aortic Stenosis — Clinical Presentation and Mortality — 1213
· Clinical Implications of Electrocardiograms for Patients With Type A Acute Aortic Dissection 1254
· Temporal Trends in the Incidence and Clinical Features of Acute Myocardial Infarction in a Japanese Rural Area From 2006 to 2014 1854

Multicenter registry
· Long-Term Outcomes of Non-ST-Elevation Myocardial Infarction Without Creatine Kinase Elevation — The J-MINUET Study 958

Multidetector computed tomography
· Association of Toll-Like Receptor 4 on Human Monocyte Subsets and Vulnerability Characteristics of Coronary Plaque as Assessed by 64-Slice Multidetector Computed Tomography 837

Myocardial contraction
· Biphasic Force-Frequency Relation Predicts Primary Cardiac Events in Patients With Hypertrophic Cardiomyopathy 368

Myocardial infarction
· Shock Index More Sensitive Than Cardiogenic Shock in ST-Elevation Myocardial Infarction Treated by Primary Percutaneous Coronary Intervention 199
· Impact of Morning Onset on the Incidence of Recurrent Acute Coronary Syndrome and Progression of Coronary Atheroscle-
Off-pump coronary artery bypass surgery
· Prooperative Serum Alkaline Phosphatase and Clinical Outcome of Off-Pump Coronary Artery Bypass Surgery 799

Optical coherence tomography
· Difference of Tissue Characteristics Between Early and Late Restenosis After Second-Generation Drug-Eluting Stents Implantation — An Optical Coherence Tomography Study — 450
· Association Between Prior Aspirin Use and Morphological Features of Culprit Lesions at First Presentation of Acute Coronary Syndrome Assessed by Optical Coherence Tomography — 511
· Coronary Atherosclerotic Plaque Characteristics and Cardiovascular Risk Factors — Insights From an Optical Coherence Tomography Study — 1165
· Antiplatelet Drug Regimen in Patients With Stent Thrombosis — Insights From the PESTO French Optical Coherence Tomography Registry — 1469
· Prevalence of Thin-Cap Fibroatheroma in Relation to the Severity of Anatomical and Physiological Stenosis 1816

Oral anticoagulants
· Timing of Treatment Initiation With Oral Anticoagulants for Acute Ischemic Stroke in Patients With Nonvalvular Atrial Fibrillation 180

Outcomes
· Riser Pattern Is a Novel Predictor of Adverse Events in Heart Failure Patients With Preserved Ejection Fraction — 220
· Five-Year Clinical Outcome of Asymptomatic vs. Symptomatic Severe Aortic Stenosis After Aortic Valve Replacement 485
· Predictors of Mortality, Rehospitalization for Syncope and Cardiovascular Events in Patients With Cardiovascular Syncope 1395

Out-of-hospital cardiac arrest
· Age-Specific Differences in the Duration of Prehospital Cardiopulmonary Resuscitation Administered by Emergency Medical Service Providers Necessary to Achieve Favorable Neurological Outcome After Out-of-Hospital Cardiac Arrest — 652

Oxidative stress
· Dynamics of Oxidative Stress Evoked by Myocardial Ischemia Reperfusion After Off-Pump Coronary Artery Bypass Grafting Elucidated by Bilirubin Oxidation 1678

Pacemakers
· Characteristics and Prognosis of Pacemaker-Identified New-Onset Atrial Fibrillation in Japanese People 794

Paroxysmal atrial fibrillation
· Novel Scoring System for Distinction Between Paroxysmal and Non-Paroxysmal Atrial Fibrillation 788

Percutaneous coronary intervention
· Preprocedural High-Sensitivity C-Reactive Protein Predicts Long-Term Outcome of Percutaneous Coronary Intervention 90
· Regional Variation in the Use of Percutaneous Coronary Intervention in Japan 195
· Ad hoc vs. Non-ad hoc Percutaneous Coronary Intervention Strategies in Patients With Stable Coronary Artery Disease 458
· Decreased Serum Albumin Predicts Bleeding Events in Patients on Antiplatelet Therapy After Percutaneous Coronary Intervention 999
· Predictors of Recurrent In-Stent Restenosis After Paclitaxel-Coated Balloon Angioplasty 1286
· Independent and Combined Effects of Serum Albumin and C-Reactive Protein on Long-Term Outcomes of Patients Undergoing Percutaneous Coronary Intervention 1293

Nutrition status
· Nutrition Status Predicts Severity of Vascular Calcification in Non-Dialyzed Chronic Kidney Disease 316

Nitric oxide
· Enhancement of Nitric Oxide Production Is Responsible for Minimal Intimal Hyperplasia of Autogenous Rabbit Arterial Grafts 1222

Nutrition
· Independent and Combined Effects of Serum Albumin and C-Reactive Protein on Long-Term Outcomes of Patients Undergoing Percutaneous Coronary Intervention 1293

Natriuretic peptides
· Neurohumoral Modulation During Waon Therapy in Chronic Heart Failure — Subanalysis of Waon-CHF Study — 709
· Improvement in Exercise Capacity by Exercise Training Associated With Favorable Clinical Outcomes in Advanced Heart Failure With High B-Type Natriuretic Peptide Level 1307
**Subject Index**

**Regurgitation**
- Tricuspid Valve Replacement vs. Repair in Severe Tricuspid Regurgitation 330

**Renal function**
- Impact of Acute Kidney Injury on In-Hospital Outcomes of Patients With Acute Myocardial Infarction — Results From the Japanese Registry of Acute Myocardial Infarction Diagnosed by Universal Definition (J-MINUET) Substudy 733
- Tolvaptan Reduces the Risk of Worsening Renal Function in Patients With Acute Decompensated Heart Failure and Preserved Left Ventricular Ejection Fraction — Prospective Randomized Controlled Study 740

**Reperfusion**
- Reperfusion Damage — A Story of Success, Failure, and Hope 131
- Barriers Associated With Door-to-Balloon Delay in Contemporary Japanese Practice 815

**Restenosis**
- Clinical Outcomes of Repetition of Drug-Coated Balloon for Femoropopliteal Restenosis After Drug-Coated Balloon Treatment 993

**Revascularization**
- Reperfusion Damage — A Story of Success, Failure, and Hope 131

**Right atrial pressure**
- Reconsideration of Inferior Vena Cava Parameters for Estimating Right Atrial Pressure in an East Asian Population — Comparative Simultaneous Ultrasound-Catheterization Study 346

**Risk factors**
- Prognostic Significance of QT Interval Dispersion in the Response to Intravenous Immunoglobulin Therapy in Kawasaki Disease 537
- New-Onset Diabetes Mellitus After Heart Transplantation — Incidence, Risk Factors and Impact on Clinical Outcome 806
- Initial Blood Ammonia Level Is a Useful Prognostication Tool in Out-of-Hospital Cardiac Arrest — Multicenter Prospective Study (SOS-KANTO 2012 Study) 1839
- Temporal Trends in the Incidence and Clinical Features of Acute Myocardial Infarction in a Japanese Rural Area From 2006 to 2014 1854

**S**

**Sex**
- Age-Specific Trends in the Incidence and In-Hospital Mortality of Acute Myocardial Infarction Over 30 Years in Japan — Report From the Miyagi AMI Registry Study 520

**Shock**
- Shock Index More Sensitive Than Cardiogenic Shock in ST-Elevation Myocardial Infarction Treated by Primary Percutaneous Coronary Intervention 199
- Tricuspid Valve Replacement vs. Repair in Severe Tricuspid Regurgitation 330
- New-Onset Diabetes Mellitus After Heart Transplantation — Incidence, Risk Factors and Impact on Clinical Outcome 806
- Comparison of the Long-Term Outcomes of Mechanical and Bioprosthetic Aortic Valves — A Propensity Score Analysis Using a Glutaraldehyde-Treated Autologous Pericardial Patch 689

**Sleep**
- Impact on Clinical Outcomes of Periodic Leg Movements During Sleep in Hospitalized Patients Following Acute Decompensated Heart Failure 495

**Speckle tracking**
- Temporal Sequential Pattern of Right Ventricular Free Wall Contraction in Normal Children 1699

**ST-elevation myocardial infarction**
- Impact of Door-to-Balloon Time in Patients With ST-Elevation Myocardial Infarction Who Arrived by Self-Transport — Acute Myocardial Infarction-Kyoto Multi-Center Risk Study Group 1693

**Stem cells**
- Myocardial Regeneration for Humans — Modifying Biology and Manipulating Evolution 142

**Stroke**
- Impact of Hypertension and Subclinical Organ Damage on the Incidence of Cardiovascular Disease Among Japanese Residents at the Population and Individual Levels — The Circulatory Risk in Communities Study (CIRCS) 1022
- Current Status and Outcomes of Direct Oral Anticoagulant Use in Real-World Atrial Fibrillation Patients — Fushimi AF Registry 1403
- Sex-Related Differences in the Clinical Events of Patients With Atrial Fibrillation — The Fushimi AF Registry 1403
- Incidence, Management and Short-Term Outcome of Stroke in a General Population of 1.4 Million Japanese — Shiga Stroke Registry 1636

**Sudden cardiac death**
- The Brugada Syndrome — From Gene to Therapy 290
- Temporal Trends in the Incidence and Clinical Features of Acute Myocardial Infarction in a Japanese Rural Area From 2006 to 2014 1854

**Surgey**
- Comparison of Clinical Outcomes After Transcatheter vs. Minimally Invasive Cardiac Surgery Closure for Atrial Septal Defect 543
- Outcomes of Totally Endoscopic Atrial Septal Defect Closure Using a Glutaraldehyde-Treated Autologous Pericardial Patch 689

**Survival**
- Shock Index More Sensitive Than Cardiogenic Shock in STElevation Myocardial Infarction Treated by Primary Percutaneous Coronary Intervention 199
- Tricuspid Valve Replacement vs. Repair in Severe Tricuspid Regurgitation 330
- New-Onset Diabetes Mellitus After Heart Transplantation — Incidence, Risk Factors and Impact on Clinical Outcome 806
- Comparison of the Long-Term Outcomes of Mechanical and Bioprosthetic Aortic Valves — A Propensity Score Analysis Using a Glutaraldehyde-Treated Autologous Pericardial Patch 689
- Impact of Surgery in Ebstein’s Anomaly Using Current Surgical Criteria 1354

**Takotsubo cardiomyopathy**
- Predictive Value of QRS Duration at Admission for In-Hospital Clinical Outcome of Takotsubo Cardiomyopathy 62

**Tetralogy of Fallot**
- Long-Term Efficacy of Implantable Cardioverter Defibrillator in Repaired Tetralogy of Fallot — Role of Anti-tachycardia Pacing 165
- Mechanisms of Left Ventricular Dysfunction Assessed by Layer-Specific Strain Analysis in Patients With Repaired Tetralogy of Fallot 846

**Thrombosis**
- Higher Body Mass Index Increases Risk of HeartMate II Pump Thrombosis But Does Not Adversely Affect Long-Term Survival 213
Subject Index

Circulation Journal Vol.81, December 2017

Tissue Doppler imaging
- Temporal Sequential Pattern of Right Ventricular Free Wall Contraction in Normal Children 1699

Transcatheter aortic valve replacement/implantation
- Favorable Clinical Outcomes of Transcatheter Aortic Valve Implantation in Japanese Patients — First Report From the Post-Approval K-TAVI Registry — 103
- Clinical Outcomes and Bioprosthetic Valve Function After Transcatheter Aortic Valve Implantation Under Dual Anti-platelet Therapy vs. Aspirin Alone 397
- Impact of Mitral Annular Displacement on Left Ventricular Diastolic Function Improvement After Transcatheter Aortic Valve Implantation 558
- Safety and Efficacy of Simultaneous Biplane Mode of 3-Dimensional Transesophageal Echocardiography-Guided Antegrade Multiple-Inflation Balloon Aortic Valvuloplasty in Patients With Severe Aortic Stenosis 748
- Transcatheter Aortic Valve Replacement With Different Valve Types in Elliptic Aortic Annuli 1036
- Five-Year Outcomes of the First Pivotal Clinical Trial of Balloon-Expandable Transcatheter Aortic Valve Replacement in Japan (PREVAIL JAPAN) 1102
- Midterm Outcomes With a Self-Expandable Transcatheter Heart Valve in Japanese Patients With Symptomatic Severe Aortic Stenosis 1108

Transcatheter pacing system
- Performance of Leadless Pacemaker in Japanese Patients vs. Rest of the World — Results From a Global Clinical Trial — 1589

Transesophageal echocardiography
- Left Atrial Appendage Thrombi Formation in Japanese Non-Valvular Atrial Fibrillation Patients During Anticoagulation Therapy — Warfarin vs. Direct Oral Anticoagulants — 645
- Prolapse Volume to Prolapse Height Ratio for Differentiating Barlow’s Disease From Fibroelastic Deficiency 1730

Tricuspid valve
- Long-Term Outcomes of Suture vs. Ring Tricuspid Annuloplasty for Functional Tricuspid Regurgitation 1432

Type A aortic dissection
- Anatomic Feasibility of Next-Generation Stent Grafts for the Management of Type A Aortic Dissection in Japanese Patients 1388

V

Valve-preserving root replacement
- Long-Term Outcome of Aortic Root Remodeling for Patients With and Without Acute Aortic Dissection 1824

Valvular diseases
- Five-Year Clinical Outcome of Asymptomatic vs. Symptomatic Severe Aortic Stenosis After Aortic Valve Replacement 485

Valvuloplasty
- Tricuspid Valve Replacement vs. Repair in Severe Tricuspid Regurgitation 330

Venous thromboembolism
- Short-Term Subcutaneous Fondaparinux and Oral Edoxaban for Acute Venous Thromboembolism 855

Ventricular arrhythmia
- Electrophysiological Characteristics and Radiofrequency Catheter Ablation Treatment of Idiopathic Ventricular Arrhythmias Successfully Ablated From the Ostium of the Coronary Sinus 1807

Ventricular remodeling
- Value of 3-Dimensional Speckle Tracking Echocardiography in the Prediction of Microvascular Obstruction and Left Ventricular Remodeling in Patients With ST-Elevation Myocardial Infarction 353

Ventricular tachycardia
- Long-Term Efficacy of Implantable Cardioverter Defibrillator in Repaired Tetralogy of Fallot — Role of Anti-tachycardia Pacing — 165
- Efficacy of Intensive Radiofrequency Energy Delivery to the Localized Dense Scar Area in Post-Infarction Ventricular Tachycardia Ablation — A Comparative Study With Standard Strategy Targeting the Infarcted Border Zone — 1603

Vulnerable plaque
- Coronary Atherosclerotic Plaque Characteristics and Cardiovascular Risk Factors — Insights From an Optical Coherence Tomography Study — 1165
- Investigations of Carotid Stenosis to Identify Vulnerable Atherosclerotic Plaque and Determine Individual Stroke Risk 1246
- Role of the Low-Density Lipoprotein-Cholesterol/High-Density Lipoprotein-Cholesterol Ratio in Predicting Serial Changes in the Lipid Component of Coronary Plaque 1439

W

Warfarin
- Clinical Significance of Hematuria in Atrial Fibrillation With Oral Anticoagulation Therapy 158
- Left Atrial Appendage Thrombi Formation in Japanese Non-Valvular Atrial Fibrillation Patients During Anticoagulation Therapy — Warfarin vs. Direct Oral Anticoagulants — 645
- Prothrombin Complex Concentrate for Vitamin K Antagonist-Associated Intracranial Hemorrhage — Global Evidence and the Japanese Perspective — 1564

Women
- Fluctuation of Dynamic Diastolic Function Relative to Static Cardiac Structure — New Insights Into the Underlying Mechanism of Heart Failure With Preserved Ejection Fraction in Elderly Patients — 755