Circulation Research

SUBJECT INDEX

VOLUME XXIV JANUARY-JUNE, 1969

Acetylcholine
- autoregulation and vascular responsiveness, 599
- serial studies in acute respiratory failure, 51

Acetylcholinesterase (AChE)
- localization at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61

Acetylstrophanthidin
- effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303

Acid phosphatase
- lysosomal enzymes in myocardial infarction, 851

Acidemia
- preservation of ventricular function by adrenergic influences during metabolic acidosis in the cat, 373

Actin
- binding characteristics of myosin and, 657

Action potentials
- development in prenatal rat heart, 19
- electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
- halothane and cardiac fibers, 745
- influence of glucose on action potential of guinea-pig papillary muscle, 939
- inotropic effects of electric currents, 409
- interaction of transmembrane potentials in canine Purkinje fibers and at Purkinje fiber-muscle junctions, 361

Activation wave front
- electrical potential distribution, 857

Adenosine
- autoregulation and vascular responsiveness, 599

Adenosine triphosphate (ATP)
- effect on binding characteristics of myosin and actin, 657
- effect on metabolic state of the excised hypothermic heart, 617
- energy utilization in heart failure, 313
- glucose and action potential of cardiac muscle, 939

Adrenal cortex
- aldosterone secretion during hemorrhage, 893

Adrenal cortical steroids
- hydrocortisone potentiation, 383

Adrenergic-cholinergic interaction
- effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303

Adrenergic influences
- preservation of ventricular function during metabolic acidosis in the cat, 373

Adrenergic nerves
- norepinephrine in failing bovine heart, 71

Alcohol
- pulmonary blood flow distribution in edema, 807
- sodium recovery in pulmonary edema, 815

Amines
- hydrocortisone potentiation, 383

sympathomimetic glucose and action potential of cardiac muscle, 939

Aminophylline
- effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303

Anatomy
- anatomical and ultrastructural study of the electrophysiological A-V node of the rabbit, 457

Anesthesia
- halothane, neural integration in arterial hypoxia, 757

Angiotensin
- autoregulation and vascular responsiveness, 599

Animals
- calves: norepinephrine in failing heart, 71
- cats: force velocity relationship, studied by isotonic and quick-release techniques, 821
- hemodynamic patterns during sleep, 923
- preservation of ventricular function by adrenergic influences during metabolic acidosis, 373
- sympathetic ganglia and the defense reaction, 843
- utilization of high-energy phosphates in experimental heart failure, 313
- dogs: aldosterone secretion during hemorrhage, 893
- antiarrhythmic agents, 835
- bilateral carotid sinus control of ventricle, 321
- binding characteristics of myosin and actin, 657
- cardiovascular performance of Alaska sled dogs during exercise, 33
- cutaneous venoconstrictor response to local cooling in the dog, 607
- effect of ATP on excised hypothermic heart, 617
- effect of left ventricular contractility response to vagus nerve stimulation, 303
- effects of hypothermia and pronethalol on ionic correlates of ouabain arrhythmias, 43
- elastic symmetry of arterial segments, 1
- electrical potential distribution, 857
- electrophysiological actions of lidocaine on ventricular muscle and Purkinje fibers, 639
- hemodynamics of neurogenic hypertension, 911
- influence of sympathetic nerve stimulation on right ventricular pressure, 397
- interaction of transmembrane potentials in canine Purkinje fibers and at Purkinje fiber-muscle junctions, 361
- lactones and calcium metabolism, 793
- left ventricular fiber angle, 339
- luminal coronary collateral circulation, 735
- lysosomal enzymes in myocardial infarction, 851
- mechanical stress and intimal change, 93
INDEX

myocardial oxygen consumption and, 725
oxygen and myocardial blood flow in hemorrhagic shock, 901
relative roles of sympathetic and parasympathetic nervous systems in carotid sinus reflex, 447
right and left ventricular cell and sarcomere lengths after banding the pulmonary artery, 705
sodium recovery in pulmonary edema, 815
sympathetic control of femoral artery, 349
vasopressin-induced bradycardia, 787
guinea pig
acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61
influence of glucose on action potential of papillary muscle, 939
mice
red cell velocity in cerebral microcirculation, 887
monkeys
endotoxin-induced regional circulatory changes in unanesthetized monkey, 777
rabbits
anatomical and ultrastructural study of the electrophysiological A-V node, 457
autonomic effects during severe arterial hypoxia in unanesthetized rabbit, 671
binding characteristics of myosin and actin, 657
effect of ouabain on energy output of cardiac muscle, 951
halothane and cardiac fibers, 745
hydrocortisone potentiation, 383
neural integration in arterial hypoxia, 757
rats
calcium exchange in rat cardiac cells, 589
development of action potential of the rat heart, 19
increased rate of RNA synthesis in experimental cardiac hypertrophy, 9
multigenic origin of membranous septal defects, 629
norepinephrine in hypertension, 85
sheep
halothane and cardiac fibers, 745
toads
healing-over of myocardial cells, 475
Anoxia
glucose and action potential of cardiac muscle, 939
Antiarrhythmic agents
qualitative distinction between beta-receptor-blocking and local anesthetic actions, 835
Aorta
elastic symmetry of arterial segments, 1
experimental constriction
increased rate of RNA synthesis in experimental cardiac hypertrophy, 9
hydrocortisone potentiation of responses to epinephrine and norepinephrine, 383
thoracic
histological and chemical responses of vascular interface to acutely induced mechanical stress in aorta of the dog, 93
Atriophin
incorporation of oleic acid into lipid by foam cells in atherosclerotic lesions, 123
Arterioluminal and arteriosinusoidal vessels
luminal coronary collateral circulation, 735
Atherosclerosis
histological and chemical responses of vascular interface to acutely induced mechanical stress in aorta of the dog, 93
lesions
incorporation of oleic acid into lipid by foam cells in, 123
ATP. See Adenosine triphosphate
ATPase activity
effect of cardiotonic lactones on calcium metabolism of dog cardiac microsomes, 793
Atria
effects of halothane on fibers, 745
electrical potential distribution surrounding atria during depolarization and repolarization in the dog, 857
Atrial artery
left anterior luminal coronary collateral circulation, 735
Atroventricular conduction
anatomical and ultrastructural study of the electrophysiological A-V node of the rabbit, 457
carotid sinus reflex, 447
Atropine
sympathetic ganglia and the defense reaction in the cat, 843
Autonomic nervous system. See Nervous system, autonomic
Autonomic transmission
acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61
during severe arterial hypoxia in the unanesthetized rabbit, 671
Autoregulation
and vascular responsiveness in dogs, 599
B
Baroreceptor reflexes
bilateral carotid sinus control of ventricular performance in the dog, 381
hemodynamics of sleep, 923
reflex regulation of arterial pressure during sleep, 169
Baroreceptors
autonomic effects during severe arterial hypoxia in unanesthetized rabbit, 671
neural integration in arterial hypoxia, 757
Beta-receptor blockade
preservation of ventricular function by adrenergic influences during metabolic acidosis in the cat, 573
Circulation Research, Vol. XXIV, June 1969
Calcium

- effect of cardiotonic lactones on calcium metabolism of dog cardiac microsomes, 793

C

- Calcium

Circulation Research, Vol. XXIV, June 1969
INDEX

Cocaine
- cutaneous venoconstrictor response to local cooling in the dog, 607
- hydrocortisone potentiation, 383

Computer analysis
- carotid sinus control of ventricle, 321
- electrical potential distribution, 857

Conduction
- electrical potential distribution surrounding atri
- interaction of transmembrane potentials in canine Purkinje fibers and at Purkinje fiber-muscle junctions, 361

Congenital anomalies
- membranous septal defects, multigenic origin, 629

Congestive heart failure
- energy utilization in, 313
- skin and muscle blood flow with exercise, 799

Contractility
- bilateral carotid sinus control of ventricular performance in the dog, 321
- distinction between beta-receptor-blocking and local anesthetic actions of antiarrhythmic agents, 835
- effect of ouabain on energy output of rabbit cardiac muscle, 951
- effect on left ventricular response to vagus nerve stimulation in dogs, 303
- glucose and action potential of cardiac muscle, 939
- inotropic effects of electric currents, 409
- myocardial oxygen consumption and heart rate, 725

Control system
- autonomic effects during severe arterial hypoxia in unanesthetized rabbit, 671

Cooling technique
- cutaneous venoconstrictor response to local cooling in the dog, 607

Coronary arteries
- blood flow, effect of dopamine, 699
- luminal coronary collateral circulation, 735
- vasopressin-induced bradycardia, 787

Creatine phosphate
- energy utilization in heart failure, 313

Deoxyribonuclease
- lysosomal enzymes in myocardial infarction, 851

Depolarization diastolic
- development of action potential of the prenatal rat heart, 19
- electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
- electrical potential distribution surrounding atri during repolarization and, in the dog, 857
- inotropic effects of electric currents, 409

Desoxycorticosterone acetate
- synthesis and turnover of norepinephrine in hypertensive rat, 85

Diastole
- development of action potential of the prenatal rat heart, 19
- fiber orientation in canine left ventricle during diastole and systole, 339

Dissociation constant
- binding characteristics of myosin and F-actin from dog hearts, 657

Diurnal variations
- renin excretion, 689

Dopamine
- effect on coronary hemodynamics in dogs, 699

Dreams
- reflex regulation of arterial pressure during sleep, 109

Drugs
- antiarrhythmic agents, qualitative distinction between the beta-receptor-blocking and local actions of, 835
Edema

- pulmonary blood flow distribution in, 807
- sodium recovery from normal and edematous lungs studied by indicator dilution curves, 815

EDTA

- healing-over of myocardial cells of toads, 475

Effective refractory period

- electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639

Elastic properties

- elastic symmetry of arterial segments in dogs, 1

Electric currents

- inotropic effects of, 409

Electrical potential distribution

- surrounding atria during depolarization and repolarization in the dog, 857

Electrical stimulation

- electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
- relative roles of sympathetic and parasympathetic nervous systems in carotid sinus reflex in dogs, 475

Electroencephalograms

- hemodynamics of neurogenic hypertension, 911

Electrograms

- atrial, electrical potential distribution, 857

Electromagnetic flowmeters

- effect of hematocrit value upon electromagnetic flowmeter sensitivity, 875
- hemodynamics of neurogenic hypertension, 911

Electron microscope

- anatomical and ultrastructural study of the electrophysiological A-V node of the rabbit, 457
- healing-over of myocardial cells of toads, 475

Electroencephalograms

- sympathetic ganglia and the defense reaction in the cat, 943

Electrophysiology

- A-V node of the rabbit, 457
- development of action potential of the prenatal rat heart, 19
- electrical potential distribution surrounding atria during depolarization and repolarization in the dog, 857

Electrotonus in heart

- interaction of transmembrane potentials in Purkinje fibers and at Purkinje fiber-muscle junctions, 361

Embryonic heart

- development of action potential of the prenatal rat heart, 19

Emphysema

- serial studies in acute respiratory failure, 51

Endothelial cells

- mechanical stress and intimal change, 93

Endotoxin

- effects on regional circulatory changes in unanesthetized monkey, 777

Energy output

- effect of ouabain on energy output of rabbit cardiac muscle, 951
- mechanochemistry of cardiac muscle, utilization of high-energy phosphates in experimental heart failure in cats, 313

Enzymes

- lysosomal, in myocardial infarction, 851

Epinephrine

- electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
- hydrocortisone potentiation of responses to norepinephrine and, in rabbit aorta, 383
INDEX

Genetics
multigenic origin of membranous septal defects, 629
Glass scintillator
calcium exchange in rat cardiac cells, 589
Glucose
influence on transmembrane action potential of guinea-pig papillary muscle, 939
β-Glucuronidase
lysosomal enzymes in myocardial infarction, 851
γ-Glutamyl-transpeptidase
lysosomal enzymes in myocardial infarction, 851
Glycogenolysis
effect of exogenous ATP on heart metabolism, 617
Glycolysis
glucose and action potential of cardiac muscle, 939
Glycodies
effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303
effect of ouabain on energy output of rabbit cardiac muscle, 951
Growth and differentiation
development of action potential of the prenatal rat heart, 19

II
Halothane
central nervous integration of the circulatory and respiratory responses to arterial hypoxia in the rabbit, 757
effects on single atrial, ventricular, and Purkinje fibers, 745
Healing-over
of myocardial cells of toads, 475
Heart failure
congestive. See Congestive heart failure
energy utilization in, 313
norepinephrine in failing bovine heart, 71
Heart rate
circulatory responses to heating and cooling, 711
myocardial oxygen consumption and, 725
reflex regulation of arterial pressure during sleep, 109
vasopressin-induced bradycardia, 787
Heart weight
increased rate of RNA synthesis in experimental cardiac hypertrophy, 9
Heat dissipation
skin and muscle blood flow with exercise, 799
Heat-tension relationship
effect of ouabain on energy output of cardiac muscle, 951
Hematocrit
effect of hematocrit value upon electromagnetic flowmeter sensitivity, 875
Hemodynamics
coronary, effect of dopamine on, 699
endotoxin effects on the regional circulation, 777
of neurogenic hypertension, 911
patterns during desynchronized sleep in cats, 923
Hemorrhage disorders
adrenergic secretion during, 893
myocardial oxygen metabolism and myocardial blood flow in dogs in hemorrhagic shock, 901
Heredity
multigenic origin of membranous septal defects, 629
Hexamethonium
sympathetic ganglia and the defense reaction in the cat, 843
Hill's equation
force-velocity relationship of cat cardiac muscle, studied by isotonic and quick-release techniques, 821
Histochernistry
acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61
fluorescent, norepinephrine in failing bovine heart, 71
Histology
chemical and histological responses of vascular interface to acutely induced mechanical stress in aorta of the dog, 93
Hydrocortisone
potentiation of responses of epinephrine and norepinephrine in rabbit aorta, 383
3-Hydroxytyramine
dopamine and coronary hemodynamics, 699
5-Hydroxytryptamine
cutaneous vasoconstrictor response to local cooling in the dog, 607
Hyperoxia
myocardial oxygen metabolism and myocardial blood flow in dogs in hemorrhagic shock, 901
Hypertension
arterial, hemodynamics of neurogenic hypertension, 911
hemodynamics of neurogenic, 911
luminal coronary collateral circulation, 735
norepinephrine in, 85
pulmonary
serial studies in acute respiratory failure, 51
reflex regulation of arterial pressure during sleep, 109
Hypertonic sucrose
healing-over of myocardial cell of toads, 475
Hypertrophy
biochemical correlates
increased rate of RNA synthesis in experimental cardiac hypertrophy in the rat, 9
ventricular
canine right and left ventricular cell and sarcomere lengths after banding the pulmonary artery, 705
Hypothalamus
sympathetic ganglia and the defense reaction in the cat, 843
Hypothymia
effect of exogenous ATP on metabolism of excised hypothermic dog heart, 617
effects of pronethalol and, on ionic correlates of ouabain arrhythmias in dogs, 43
Hypoxia
arterial
autonomic effects during severe, in unanesthetized rabbit, 671
central nervous integration of the circulatory and respiratory responses in rabbits, 757
pulmonary vasoconstriction
serial studies in acute respiratory failure, 51

I
Indicator dilution curves
sodium recovery from normal and edematous lungs, 815
Injury potentials
healing-over of myocardial cells of toads, 475
Innervation, cardiac
hemodynamics of sleep, 823
Inotropic effects
of electric currents, 409
myocardial oxygen consumption and heart rate, 725

Circulation Research, Vol. XXIV, June 1969
### Index

**Inotropic stimuli**
- Effect on contractility on left ventricular response to vagus nerve stimulation in dogs, 303

**Inotropism**
- Dopamine and coronary hemodynamics, 699

**Intercalated disks**
- Healing-over of myocardial cells of toads, 475

**Intercellular junctions**
- Healing-over of myocardial cells of toads, 475

**Intimal tissues**
- Histological and chemical responses of vascular interface to acutely induced mechanical stress in aorta of dog, 93

**Internaodal denervation**
- Norepinephrine in hypertensive rat, 85

**Isometric studies**
- Effect of ouabain on energy output of cardiac muscle, 951

**Isotonic studies**
- Effect of ouabain on energy output of cardiac muscle, 951

**Isotope labeling**
- Sodium recovery in pulmonary edema, 815

**Isovolumetric preparation**
- Carotid sinus control of ventricular performance in the dog, 321

### K

**Kidneys**
- Autoregulation and vascular responsiveness, 599

**L**

**Lactones**
- Effect on calcium metabolism, 793

**Left ventricles**
- Contractility, response to vagus nerve stimulation in dogs, 303
  - Fiber angle during diastole and systole, 339
  - Isovolumic contractions
    - Myocardial oxygen consumption and heart rate, 725
  - Wall structure
    - Fiber orientation during diastole and systole, 339

**Leg exercise**
- Skin and muscle blood flow with exercise, 799

**Length-force curve**
- Force-velocity relationship of cat cardiac muscle, 821

**Lesions**
- Atherosclerotic, incorporation of oleic acid into lipid by foam cells in, 123

**Lidocaine**
- Antiarrhythmic agents, 835
  - Electrophysiological actions on canine ventricular muscle and Purkinje fibers, 639

**Light scattering**
- Binding characteristics of myosin and F-actin from dog hearts, 657

**Lipids**
- Incorporation of oleic acid by foam cells in atherosclerotic lesions, 123

**Lumen, cardiac**
- Luminal coronary collateral circulation, 735

**Lungs**
- Neural integration in arterial hypoxia, 757
  - Pulmonary blood flow distribution in edema, 807
  - Sodium recovery from normal and edematous lungs studied by indicator dilution curves, 815

---

*Circulation Research, Vol. XXIV, June 1969*
preservation of ventricular function by adrenergic influences during metabolic acidosis in the cat, 373
force-velocity relationship, studied by isotonic and quick-release techniques, 821
infarction. See Myocardial infarction innervation
norepinephrine in failing bovine heart, 71
nucleotides, increased rate of RNA synthesis in experimental cardiac hypertrophy, 9
oxygen consumption
effect of dopamine, 699
heart rate in dogs and, 725
oxygen metabolism and blood flow in dogs in hemorrhage shock, 901.
Myosin
binding characteristics of actin and, 657
Myothermic techniques
effect of ouabain on energy output of cardiac muscle, 951
N
Nerves
left ventricular contractility response to vagus nerve stimulation in dogs, 303
localization of acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61
Nervous system
autonomic
carotid sinus control of ventricle, 321
effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303
effects during severe arterial hypoxia in unanesthetized rabbit, 671
preservation of ventricular function by adrenergic influences during metabolic acidosis in the cat, 373
central integration of the circulatory and respiratory responses to arterial hypoxia in the rabbit, 737
sympathectomy, cutaneous vasoconstrictor response to local cooling in the dog, 607
sympathetic
detoxin effects on regional circulation 777
influence of stimulation on right ventricular outflow-tract pressures in dogs, 307
range of sympathetic control of the dog femoral artery, 349
relative roles of sympathetic and parasympathetic, in carotid sinus reflexes in dogs, 447
Norpinephrine
autoregulation and vascular responsiveness, 599
cutaneous vasoconstrictor response to local cooling in the dog, 607
in the failing bovine heart, 71
hydrocortisone potentiation of responses to epinephrine and, in rabbit aorta, 383
in hypertensive rat, 85
Nucleotides
myocardial, increased rate of RNA synthesis in experimental cardiac hypertrophy, 9
O
Occlusions
pulmonary arteries, right ventricular pressure differences, 397
Oil immersion technique
hydrocortisone potentiation, 383
Oleic acid
incorporation into lipid by foam cells in human atherosclerotic lesions, 123
Orthotropic elastic properties
elastic symmetry of arterial segments in dogs, 1
Ouabain
effect on energy output of rabbit cardiac muscle, 951
effects of hypothermia and pronethalol on ionic correlates of ouabain arrhythmias in dogs, 43
glucose and action potential of cardiac muscle, 939
Oxygen
myocardial oxygen consumption
effect of dopamine, 699
oxygen metabolism and blood flow in dogs in hemorrhagic shock, 901
serial studies in acute respiratory failure, 51
P
Pacing and pacemakers
development of action potential of the prenatal rat heart, 19
paired pacing, effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 503
Papillary muscles
effect of ouabain on energy output of, 951
force-velocity relationship, studied by isotonic and quick-release techniques, 821
glucose and action potential of cardiac muscle, 939
interaction of transmembrane potentials in Purkinje fibers and at Purkinje fiber-muscle junctions, 361
utilization of high-energy phosphates in experimental heart failure in cats, 313
Perfusion pressure
autoregulation and vascular responsiveness, 599
Peripheral circulation
autonomic effects during severe arterial hypoxia in unanesthetized rabbit, 671
Peripheral vascular resistance
circulatory responses to heating and cooling, 711
endotoxin effects on regional circulation, 777
hemodynamics of neurogenic hypertension, 911
Phenoxybenzamine
sympathetic ganglia and the defense reaction in the cat, 843
Phosphates
utilization of high-energy phosphates in experimental heart failure in cats, 313
Phospholipids
incorporation of oleic acid into lipid by foam cells in atherosclerotic lesions, 123
Physiology
calcium exchange in rat cardiac cells, 589
Plasma
effect of hematocrit value upon electromagnetic flowmeter sensitivity, 875
Postsynaptic potential
sympathetic ganglionic transmission and the cardiovascular changes of the defense reaction in the cat, 843
Potassium
effects of hypothermia and pronethalol on ionic correlates of ouabain arrhythmias in dogs, 43
Potential distribution
surrounding atria during depolarization and repolarization in the dog, 857
Potentiation
poststimulation, inotropic effects of electric currents, 409

Circulation Research, Vol. XXIV, June 1969
Pregnancy
acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61

Pressure
arterial reflex regulation during sleep, 109
serial studies in acute respiratory failure, 51
perfusion autoregulation and pressure dependency or renal vascular responsiveness in dogs, 589
right ventricular pressure differences, 397
venous, circulatory responses to heating and cooling, 711

Propranolol
effects of hypothermia and, on ionic correlates of ouabain arrhythmias in dogs, 43

Protein
excretion, observations on origin of renin in urine, 689

Pulmonary artery
arterial pressure serial studies in acute respiratory failure, 51
banding canine right and left ventricular cell and sarcomere lengths after banding the pulmonary artery, 705
occlusion right ventricular pressure differences, 397

Pulsatile flow
erythrocyte velocity and a velocity pulse in minute blood vessels on the surface of the mouse brain, 887

Pulse
erythrocyte velocity and velocity pulse in minute blood vessels on surface of mouse brain, 887
reflex regulation of arterial pressure during sleep, 109

Purkinje fibers
effects of halothane on, 745
electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
interaction of transmembrane potentials in canine Purkinje fibers and at Purkinje fiber-muscle junctions, 561

Quinidine
antiarrhythmic agents, 835

R

Radioactivity
calcium exchange in rat cardiac cells, 589
endotoxin effects on regional circulation, 777

Radioautography
incorporation of oleic acid into lipid by foam cells in atheroclerotic lesions, 123

Radiotherapy
cardiovascular performance of Alaska sled dogs during exercise, 33

Reflexes
carotid sinus, 447

Reflex sensitivity
regulation of arterial pressure during sleep, 109

Refractory period
electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
halothane and cardiac fibers, 745

Renin
observations on excretion into urine, 889

(index 983)

Repolarization
electrical potential distribution surrounding atria during depolarization and, in the dog, 857

Resistance vessels
glucose and action potential of cardiac muscle, 939

Reserpine
hydrocortisone potentiation, 383

Resistance vessels
hemodynamics of sleep, 923

Respiration
neural integration in arterial hypoxia, 757
serial studies in acute respiratory failure, 51

Rheology
mechanical stress and intimal change in aorta of the dog, 93

Rhinencephalic preparations
neural integration in arterial hypoxia, 757

Ribonucleic acid (RNA)
base composition of, 9
increased rate of RNA synthesis in experimental cardiac hypertrophy, 9

S

Salt
norepinephrine in hypertensive rat, 85

Saphenous veins
cutaneous vasoconstrictor response to local cooling in the dog, 607

Sarcomere lengths
canine right and left ventricular cell and sarcomere lengths after banding the pulmonary artery, 705

Sarcoplasmic reticulum
effect of cardiotonic lactones on calcium metabolism of dog cardiac microsomes, 793

Shear stress
mechanical stress and intimal change in aorta of the dog, 93

Septal artery
luminal coronary collateral circulation, 735

Septal defects
membranous, multigenic origin, 629

Shearing strains
elastic symmetry of arterial segments, 1
fiber orientation in canine left ventricle during diastole and systole, 339

Shearing stress
mechanical stress and intimal change in aorta of the dog, 93

Shock
aldosterone secretion during hemorrhage, 893
myocardial oxygen metabolism and blood flow in dogs in hemorrhagic shock, 901

Sinus node reinnervation
hemodynamics of sleep, 923

Sinus rate
relative roles of sympathetic and parasympathetic nervous systems in carotid sinus reflex in dogs, 447

Skeletal muscles
sympathetic ganglia and the defense reaction in the cat, 843

Skin
circulatory responses to rapid changes during exercise, 711
and muscle blood flow with exercise, 799

Sleep
hemodynamic patterns during desynchronized sleep and sinoaortic deafferentation, 923
hemodynamics of neurogenic hypertension, 911
reflex regulation of arterial pressure during, 109

Smooth muscles
cutaneous vasoconstrictor response to local cooling in the dog, 607

Circulation Research, Vol. XXIV, June 1969
INDEX

[Smooth muscles—Vasodilation]

hydrocortisone potentiation, 383
sympathetic control of the dog femoral artery, 349

Sodium
effects of hypothermia and pronethalol on ionic correlates of ouabain arrhythmias in dogs, 43
norepinephrine in hypertensive rat, 85
recovery from normal and edematous lungs studied by indicator dilution curves, 815
renin excretion, 689

Spironolactone
renin excretion, 689

Sterile configuration
lactones and calcium metabolism, 793

Steroids
elastic symmetry of arterial segments in dogs, 1

Stress
histological and chemical responses of vascular interface to acutely induced mechanical stress in aorta of dog, 93
Stress-velocity relation
myocardial oxygen consumption and heart rate, 725

Stroke volume
circulatory responses to heating and cooling, 711

Surface precipitation reaction
healing-over of myocardial cells of toads, 475

Surgery
sympathectomy
cutaneous vasoconstrictor response to local cooling in the dog, 607
vagotomy
carotid sinus reflex, 447

Sympathetic nervous system,
See Nervous system, sympathetic

Sympathetic-parasympathetic interaction
effect of contractility on left ventricular response to vagus nerve stimulation in dogs, 303

Sympathetic tone
skin and muscle blood flow with exercise, 799

Sympathetic vasoconstrictor activity
hemodynamics of sleep, 923

Sympathomimetic amines
glucose and action potential of cardiac muscle, 939

Sysmkes
fiber orientation in canine left ventricle during diastole and systole, 339

Systolic quick release
force-velocity relationship of cat cardiac muscle, 821

Telemetry
cardiovascular performance of Alaska sled dogs during exercise, 33

Temperature
effect of ouabain on energy output of cardiac muscle, 951
effect on binding characteristics of myosin and actin, 657

Tension-independent heat
effect of ouabain on energy output of cardiac muscle, 951

Tercaain-
antiarhythmic agents, 835

Thalamic preparations
neural integration in arterial hypoxia, 757

Tissues
cultures, calcium exchange in rat cardiac cells, 589
effect of exogenous ATP on metabolism of excised hypothermic dog heart, 617
lysosomal enzymes in myocardial infarction, 851

Total peripheral resistance
hemodynamics of sleep, 923

Transmembrane action potentials
electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
interaction in canine Purkinje fibers and at Purkinje fiber-muscle junctions, 361

Tyramine hydrochloride
cutaneous vasoconstrictor response to local cooling in the dog, 607

U

Ultracentrifugation
binding characteristics of myosin and F-actin from dog hearts, 657

Ultrarapid freezing
pulmonary blood flow distribution in edema, 807

Ultrastucture
anatomical and ultrastructural study of the electrophysiological A-V node of the rabbit, 457

Uridine nucleotide pool
increased rate of RNA synthesis in experimental cardiac hypertrophy, 9

Urine
renin excretion, 689

Uterine artery
cutaneous cholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61

V

Vagosympathetic stimulation
right ventricular pressure differences, 397

Vagotony
carotid sinus reflex, 447

Vagus nerves
effect of enhanced contractility on left ventricular response to vagus nerve stimulation in dogs, 303
reflex regulation of arterial pressure during sleep, 109
vasopressin-induced bradycardia, 787

Vascular interface
response to acutely induced mechanical stress in aorta of dog, 93

Vascular morphology
cutaneous cholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61

Vascular reactivity
norepinephrine in hypertensive rat, 85

Vascular resistance
autoregulation and vascular responsiveness, 599

Vascular responsiveness
autoregulation and pressure dependency in renal vascular responsiveness, 599

Vasculär smooth muscle
sympathetic control of the dog femoral artery, 349

Vasoactive agents
autoregulation and vascular responsiveness, 599

Vasoconstriction
skin and muscle blood flow with exercise, 799

Vasodilation
after stimulation, sympathetic control of the dog femoral artery, 349
INDEX

985

effect of dopamine on coronary hemodynamics, 699
sympathetic ganglia and the defense reaction in the cat, 843
Vasodilators
endoxin-induced regional circulatory changes in unanesthetized monkey, 777
Vasomotor innervation
acetylcholinesterase at a cholinergic vasodilator nerve-arterial smooth muscle synapse, 61
Vasopressin
induced bradycardia in dogs, 787
Veins
anterior cardiac
luminal coronary collateral circulation, 735
cutaneous venoconstrictor response to local cooling in the dog, 607
Velocity
erthrocyte velocity and velocity pulse in minute blood vessels on surface of the mouse brain, 887
Venous return
hemodynamics of sleep, 923
Ventricles
bilateral carotid sinus control of ventricular performance in the dog, 321
canine right and left ventricular cell and sarcomere lengths after banding the pulmonary artery, 705
contractility, response to vagus nerve stimulation in dogs, 303
effects of halothane on fibers, 745
electrophysiological actions of lidocaine on canine ventricular muscle and Purkinje fibers, 639
fibers, isotropic effects of electric currents, 409
function
preservation by adrenergic influences during metabolic acidosis in cats, 373
influence of sympathetic nerve stimulation on right ventricular outflow-tract pressures in dogs, 397
left. See Left ventricles
vasopressin-induced bradycardia, 787
Ventricular septal defects
multigenic origin of membranous septal defects, 629
Water
sodium recovery from normal and edematous lungs studied by indicator dilution curves, 815
X
Xenon
oxygen and myocardial blood flow in shock, 901
pulmonary blood flow distribution in edema, 807

Circulation Research, Vol. XXIV, June 1969
Subject Index

Circ Res. 1969;24:975-985
doi: 10.1161/01.RES.24.6.975

Circulation Research is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 1969 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7330. Online ISSN: 1524-4571

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circres.ahajournals.org/content/24/6/975.citation

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation Research can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation Research is online at:
http://circres.ahajournals.org/subscriptions/