

Anesthesiology

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493 Midlatency Auditory Evoked Potentials and Explicit and Implicit Memory in Patients Undergoing Cardiac Surgery

D. Schwender, A. Kaiser, S. Klasing, K. Peter, and E. Pöppel

When the electrophysiologic condition of primary cortical processing is preserved during general anesthesia, auditory information may be processed and remembered postoperatively by an implicit memory task.

502 Core Hypothermia and Skin-surface Temperature Gradients: Epidural *Versus* General Anesthesia and the Effects of Age

Steven M. Frank, Yoram Shir, Srinivasa N. Raja, Lee A. Fleisher, and Charles Beattie

Core temperature profiles are similar between epidural and general anesthesia; however, with epidural anesthesia, younger patients maintain thermoregulatory activity relative to older patients, and with general anesthesia, there are minimal age-related differences.

509 Ventilation-Perfusion Inequality in Patients Undergoing Cardiac Surgery

Thomas Hachenberg, Arne Tenling, Sven-Olov Nyström, Hans Tyden, and Göran Hedenstierna

A clinical study using the multiple inert gas elimination technique shows that intrapulmonary shunt is the major component of gas exchange impairment in patients undergoing cardiac surgery.

520 Characterization of Prothrombin Activation during Cardiac Surgery by Hemostatic Molecular Markers

Thomas F. Slaughter, Todd H. LeBleu, James M. Douglas, Jr., John B. Leslie, Judith K. Parker, and Charles S. Greenberg

Hemostatic markers for both thrombin formation and thrombin activity demonstrate the presence of active thrombin throughout the period of cardiopulmonary bypass and during the early postoperative period after cardiac surgery for myocardial revascularization.

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527 Monitor Surveillance and Vigilance of Anesthesia Residents

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Anesthesia residents have impaired vigilance toward monitored data during the induction phase of anesthesia because of reduced scanning of instrument displays.

534 Sympathetic Muscle Nerve Activity, Peripheral Blood Flows, and Baroreceptor Reflexes in Humans during Propofol Anesthesia and Surgery

Johan Sellgren, Hans Ejnell, Mikael Elam, Johan Pontén, and B. Gunnar Wallin

The depression of muscle nerve sympathetic activity observed during propofol anesthesia is reversed by surgical stress, and the vasodilating effects of increasing doses of propofol override neural vasoconstriction elicited by surgery.

545 Humans Anesthetized with Sevoflurane or Isoflurane Have Similar Arrhythmic Response to Epinephrine

Renee Navarro, Richard B. Weiskopf, Mark A. Moore, Stephen Lockhart, Edmond I. Eger II, Donald Koblin, Grace Lu, and Charles Willson

Exogenously administered epinephrine has similar dose-related arrhythmogenic effects in humans anesthetized with sevoflurane and those anesthetized with isoflurane.

550 The Laryngeal Mask Airway and Positive-pressure Ventilation

J. Hugh Devitt, Richard Wenstone, Alva G. Noel, and Michael P. O'Donnell

Intermittent positive pressure ventilation *via* a laryngeal mask airway produced an increasing leak and an increasing incidence of gastroesophageal insufflation with increasing ventilation pressures.

■ LABORATORY INVESTIGATIONS

556 Toxicity of Compound A in Rats: Effect of a 3-Hour Administration

C. T. Gonsowski, M. J. Laster, E. I. Eger II, L. D. Ferrell, and R. L. Kerschmann

The degradation of sevoflurane to compound A causes renal and hepatic injuries in rats breathing the olefin in oxygen during a single 3-h exposure.

566 Toxicity of Compound A in Rats: Effect of Increasing Duration of Administration

C. T. Gonsowski, M. J. Laster, E. I. Eger II, L. D. Ferrell, and R. L. Kerschmann

The lethal and toxic effects on rats of the olefin compound A were found to be dose-related but not simply a function of the cumulative dose.

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574 Regional Vasodilating Properties of Isoflurane in Normal Swine Myocardium

Robert F. Hickey, Brian A. Cason, and Igor Shubayev

Regional myocardial administration of isoflurane induces little or no vasodilation until isoflurane concentration exceeds 1%.

582 Speed and Sensitivity of Mechanical *Versus* Electrographic Indicators to Mild or Moderate Myocardial Ischemia in the Pig

Seiji Watanabe and Charles W. Buffington

Mechanical and electrical measures of myocardial ischemia show equal sensitivity at steady state even though regional contraction changed more quickly than the QRS amplitude or the ST segment after an abrupt reduction in coronary flow.

595 Mechanisms of the Putative Cardioprotective Effect of Hexamethonium in Anesthetized Dogs Given a Large Dose of Bupivacaine

Jean E. de La Coussaye, Jean-Jacques Eledjam, Pascal Bruelle, Jean-Yves Lefrant, Bruno Bassoul, Pascale A. Peray, Gérard Desch, and Antoine Sassine

Hexamethonium protects pentobarbital-anesthetized dogs from bupivacaine cardiotoxicity only by inducing a slower heart rate but worsens hemodynamic parameters.

606 Anesthetic Potency Is Not Altered after Hypothermic Spinal Cord Transection in Rats

Ira J. Rampil

Somatic responsiveness as a component of the general anesthetic state appears to be mediated by the spinal cord.

611 Pulmonary Artery Occlusion and Lung Collapse Depletes Rabbit Lung Adenosine Triphosphate

Michael J. Bishop, Robert G. Holman, Sandra M. Guidotti, Michael K. Alberts, and Emil Y. Chi

Lung ATP levels are unaffected by either unilateral lung collapse or unilateral pulmonary artery occlusion but are severely depressed when the lung is collapsed in the absence of pulmonary arterial flow.

618 Volatile Anesthetics Inhibit Dihydropyridine Binding to Malignant Hyperthermia-susceptible and Normal Pig Skeletal Muscle Membranes

Charles F. Louns, Tim Roghair, and James R. Mickelson

Volatile anesthetics cause a decrease in Ca^{2+} currents in skeletal muscle isolated from malignant hyperthermia-susceptible and normal pigs by reducing the number of functional dihydropyridine receptor Ca^{2+} channels.

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Clinical anesthetic concentrations of halothane and isoflurane decrease both Ca^{2+} sensitivity and maximal force of contractile proteins in skinned myocardial fibers from humans.

- 634** Effects of Propofol and Thiopental on Coronary Blood Flow and Myocardial Performance in an Isolated Rabbit Heart

Stéphane Mouren, Jean-Francois Baron, Catherine Albo, Barbara Szekely, Martine Arthaud, and Pierre Viars

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The Guide for Authors is published in the January and July issues. Please refer to the Guide for the preparation of any material for submission to ANESTHESIOLOGY.

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