

# Anesthesiology

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## CONTENTS

### 7A ■ THIS MONTH IN ANESTHESIOLOGY

### 27A ■ HIGHLIGHTS

### ■ EDITORIAL VIEWS

#### 1 More Journal Changes

*Lawrence J. Saidman*

#### 2 Propofol in Pediatrics: Lessons in Pharmacokinetic Modeling

*Dennis M. Fisher*

### ■ CLINICAL INVESTIGATIONS

#### 6 Use of Ketorolac after Lower Abdominal Surgery: Effect on Analgesic Requirement and Surgical Outcome

*Robert K. Parker, Barbel Holtmann, Ian Smith, and Paul F. White*

Ketorolac supplementation decreased patient-controlled analgesia opioid requirements and improved postoperative sleep quality on the first night after surgery but did not significantly reduce discharge times or side effects after abdominal hysterectomy procedures.

#### 13 Regulation of Inspiratory Neuromuscular Output during Synchronized Intermittent Mechanical Ventilation

*C. Imsand, F. Feihl, C. Perret, and J. W. Fitting*

During synchronized intermittent mandatory ventilation, duration and amplitude of diaphragmatic and sternocleidomastoid electromyograms are similar in successive spontaneous and assisted breaths and are not reduced in proportion to the level of machine assistance.

#### 23 High-dose Aprotinin Reduces Blood Loss in Patients Undergoing Total Hip Replacement Surgery

*Marc Janssens, Jean Joris, Jean Louis David, Roger Lemaire, and Maurice Lamy*

Using high-dose Aprotinin during total hip replacement surgery, blood loss can be reduced by 26% and transfusion requirement by 47% without evident side effects.

## CONTENTS

- 30 Nitrous Oxide in Early Labor: Safety and Analgesic Efficacy Assessed by a Double-blind, Placebo-controlled Study**  
*Jan Carstoniu, Shimon Levytam, Peter Norman, Denise Daley, Joel Katz, and Alan N. Sandler*
- There appear to be no differences in the effect of intermittently administered nitrous oxide and oxygen *versus* compressed air during early labor on maternal oxyhemoglobin saturation or pain relief.
- 36 Relative Potency of Etanolone, Propofol, and Thiopental for Induction of Anesthesia**  
*Jan Van Hemelrijck, Peter Muller, Hugo Van Aken, and Paul F. White*
- Etanolone appears to be an effective induction agent, with a relative hypnotic potency of 3.2:1 (95% confidence interval 2.7–3.8) compared to propofol, and 6.0:1 (95% confidence interval 5.3–6.9) compared to thiopental, in patients premedicated with lorazepam.
- 42 Efficacy of the Self-inflating Bulb in Detecting Esophageal Intubation: Does the Presence of a Nasogastric Tube or Cuff Deflation Make a Difference?**  
*M. Ramez Salem, Yaser Wafai, Ninos J. Joseph, Anis Baraka, and Edward A. Czinn*
- Neither the presence of a nasogastric tube nor tracheal tube cuff deflation interferes with the efficacy of the self-inflating bulb in differentiating esophageal from tracheal intubation.
- 49 The Effect of Epidural *Versus* General Anesthesia on Postoperative Pain and Analgesic Requirements in Patients Undergoing Radical Prostatectomy**  
*Yoram Shir, Srinivasa N. Raja, and Steven M. Frank*
- Efficient intraoperative neuraxial blockade with local anesthetics might reduce postoperative pain in humans.
- 57 Inhaled Nitric Oxide Selectively Decreases Pulmonary Vascular Resistance without Impairing Oxygenation during One-lung Ventilation in Patients Undergoing Cardiac Surgery**  
*George F. Rich, Stuart M. Lowson, Roger A. Johns, Mark O. Daugherty, and David R. Uncles*
- Inhaled nitric oxide (20 ppm) selectively decreases pulmonary vascular resistance without altering arterial oxygen tension or venous admixture during one-lung ventilation in patients undergoing cardiac surgery.

## CONTENTS

**63 The Electrophysiologic Effects of Volatile Anesthetics and Sufentanil on the Normal Atrioventricular Conduction System and Accessory Pathways in Wolff-Parkinson-White Syndrome**

*Michael D. Sharpe, Wojciech B. Dobkowski, John M. Murkin, George Klein, Gerard Guiraudon, and Raymond Yee*

Enflurane, isoflurane, and halothane increase refractoriness within the accessory and atrioventricular pathways in patients with Wolff-Parkinson-White syndrome, whereas sufentanil and lorazepam have no significant clinical effects.

**71 Closed-circuit Anesthesia with Sevoflurane in Humans: Effects on Renal and Hepatic Function and Concentrations of Breakdown Products with Soda Lime in the Circuit**

*Hiromichi Bito and Kazuyuki Ikeda*

Closed-circuit sevoflurane anesthesia was administered to surgical patients to assess the generation of breakdown products, and no patients in the study showed clinical or laboratory evidence of hepatic or renal toxicity.

**77 An Objective Methodology for Task Analysis and Workload Assessment in Anesthesia Providers**

*Matthew B. Weinger, Oliver W. Herndon, Mark H. Zornow, Martin P. Paulus, David M. Gaba, and Larry T. Dallen*

The training and performance of anesthesiologists can be evaluated using a combination of time-motion analysis, secondary task probing, and subjective workload assessment.

**93 End-tidal Sevoflurane Concentration for Tracheal Intubation and Minimum Alveolar Concentration in Pediatric Patients**

*Shinichi Inomata, Seiji Watanabe, Masakazu Taguchi, and Minako Okada*

Sevoflurane appears to be suitable as an induction agent permitting tracheal intubation in pediatric patients without neuromuscular relaxant.

**97 Safety and Potency of ANQ 9040 in Male Volunteers**

*I. T. Munday, R. M. Jones, F. Donati, T. G. K. Mant, and M. C. Damask*

ANQ 9040 is a rapid-onset, nondepolarizing neuromuscular relaxant, but it is associated with substantial histamine release.

## CONTENTS

### **104 The Pharmacokinetics of Propofol in Children Using Three Different Data Analysis Approaches**

*Bideshwar K. Kataria, Sudha A. Ved, Honorato F. Nicodemus, Gregory R. Hoy, Dawn Lea, Michel Y. Dubois, Jaap W. Mandema, and Steven L. Shafer*

A three-compartment, weight-proportional pharmacokinetic model provides a good description of the pharmacokinetics of propofol in children.

### **123 Nifedipine and Intraoperative Core Body Temperature in Humans**

*Nicolas Vassilieff, Nadia Rosencher, Daniel I. Sessler, Christian Conseiller, and André Lienhart*

Intraoperative core temperatures in patients given nifedipine the night before and the morning of surgery remained significantly higher than those in untreated patients; in contrast, core temperatures were significantly lower than those in control patients when nifedipine was administered only the morning of surgery.

## **■ LABORATORY INVESTIGATIONS**

### **129 Carbon Dioxide Absorption Is Not Linearly Related to Intraperitoneal Carbon Dioxide Insufflation Pressure in Pigs**

*David R. Lister, Blair Rudston-Brown, C. Brian Warriner, James McEwen, Michael Chan, and Keith R. Walley*

Carbon dioxide absorption from the peritoneal cavity reaches a maximum at relatively low intraperitoneal insufflation pressures in pigs.

### **137 Synergistic Antinociceptive Interaction after Epidural Coadministration of Morphine and Lidocaine in Rats**

*Megumi Kaneko, Yoji Saito, Yumiko Kirihaara, J. G. Collins, and Yoshihiro Kosaka*

Isobolographic analysis demonstrated that epidurally coadministered morphine and lidocaine interact synergistically to produce supraadditive antinociceptive effects upon both somatic and visceral nociceptive stimuli as long as 30 min after injection.

### **151 Effects of Pentobarbital on Incorporation of Plasma Palmitate into Rat Brain**

*Shingo Yamazaki, Joseph J. DeGeorge, Jane M. Bell, and Stanley I. Rapoport*

Pentobarbital anesthesia directly depresses synthesis of brain glycerolipids, independently of cerebral blood flow, hypercapnia, or acidosis.

## CONTENTS

### 159 The Effect of Adenosine-induced Hypotension on Systemic and Splanchnic Hemodynamics during Halothane or Sevoflurane Anesthesia in the Rat

*Mark W. Crawford, Jerrold Lerman, Victor Saldivia, Hector Orrego, and Frederick J. Carmichael*

Adenosine infusion resulted in stable hypotension and an increase in splanchnic blood flow when administered alone or in the presence of halothane or sevoflurane in the rat.

### 168 Plasma, Brain, and Spinal Cord Concentrations of Thiopental Associated with Hyperalgesia in the Rat

*David P. Archer, Alastair Ewen, Sheldon H. Roth, and Naaznin Samanani*

Concentrations of thiopental associated with hyperalgesia in the rat during non-steady-state and steady-state infusions were measured in the plasma, brain, and spinal cord.

### 177 Effects of Hypothermia or Anesthetics on Hippocampal Glutamate and Glycine Concentrations after Repeated Transient Global Cerebral Ischemia

*Udo M. Illievich, Mark H. Zornow, Kyu Taek Choi, Martin A. P. Strnat, and Mark S. Scheller*

Increases in glutamate and glycine concentrations after repeated episodes of global ischemia are attenuated by hypothermia.

## ■ MEDICAL INTELLIGENCE ARTICLE

### 187 AIDS and the Central Nervous System: Implications for the Anesthesiologist

*Harvey M. Shapiro, Igor Grant, and Matthew B. Weinger*

## ■ LABORATORY REPORT

### 201 A Simplified Gas Chromatographic Method for Quantifying the Sevoflurane Metabolite Hexafluoroisopropanol

*Scott E. Morgan, Edward J. Frink, and A. Jay Gandolfi*

## ■ CASE REPORTS

### 206 The Anesthetic Implications of a Patient with Farber's Lipogranulomatosis

*Akira Asada, Shigeki Tatekawa, Takekazu Terai, Masanori Hayashi, Masato Hatano, Kazutoshi Ikeshita, and Mitsugu Fujimori*

## CONTENTS

- 209** Immediate Detection of Carotid Arterial Thrombosis by Transcranial Doppler Monitoring  
*Dennis D. Doblar, Luc Frenette, Yong C. Lim, and Gary Gross*
- 213** Normal Lactate/Pyruvate Ratio during Overwhelming Polymicrobial Bacteremia and Multiple Organ Failure  
*Carlo Gammaitoni and Stanley A. Nasraway*
- 216** Postanesthetic Apnea in Full-term Infants after Pyloromyotomy  
*Dean B. Andropoulos, Maurine B. Heard, Kristen L. Johnson, Jonathan T. Clarke, and Richard W. Rowe*
- 220** Electrical Safety Revisited: A New Wrinkle  
*Franklin J. Day*
- 222** Anemia and Hypotension as Contributors to Perioperative Loss of Vision  
*R. H. Brown, J. F. Schauble, and N. R. Miller*
- 227** Threatening Spinal Cord Compression during Anesthesia in a Child with Mucopolysaccharidosis VI  
*Ulf Linstedt, Christoph Maier, Hans Joehnk, and Ulrich Stephani*

## ■ CORRESPONDENCE

---

- 230** Postthyroidectomy Laryngoscopic Examination  
*Hwa-kou King and Ahsanul K. Khan*
- 230** Carotid Artery-Internal Jugular Fistula: Another Complication Following Pulmonary Artery Catheterization *Via* the Internal Jugular Venous Route  
*F. Gobeil, P. Couture, D. Girard, and R. Plante*
- 232** An Unusual Cause of Electrocardiogram "Pacemaker Artifact": Faulty Electrical Grounding of Equipment  
*Kenneth W. Travis, Robert J. Rose, Timothy J. M. Quill, and Anne McClenachan*
- 233** A Really Long Sufentanil Infusion  
*Jeffrey S. Kelly and John F. Butterworth IV*
- 233** Does Flumazenil Antagonize Midazolam-induced Depression of Ventilatory Response to Hypoxia?  
*Marc Torjman, Christina T. Mora, and Paul F. White*
- 234** Reply *Robert T. Blouin and Jeffrey B. Gross*

## CONTENTS

- 236** Inability to Deflate the Distal Cuff of the Laser-Flex Tracheal Tube Preventing Extubation after Laser Surgery of the Larynx  
*David M. Heyman, Alan L. Greenfeld, Jeff S. Rogers, Bryan S. McCarthy, and John Tucker*
- 237** Reply *Robert Virag*
- 238** Abortion Does Not Lead to Euthanasia  
*Elana B. Doering*
- 239** Reply *Rodger E. Barnette and Woodrow W. Wendling*
- 240** Costs of Administering Desflurane or Isoflurane *Via* a Closed Circuit  
*Jan Hendrickx and Andre M. De Wolf*
- 242** Revised Label Regarding Use of Succinylcholine in Children and Adolescents: I  
*Robert C. Morell, Jeffrey M. Berman, Roger I. Royster, Patricia H. Petrozza, Jeffrey S. Kelly, and David M. Colonna*
- 243** Revised Label Regarding Use of Succinylcholine in Children and Adolescents: II  
*J. Michael Badgwell, Steven C. Hall, and Charles Lockhart*
- 243** Reply *Linda Katz, Curtis Wright, John Harter, Max Zung, David Scally, and Daniel Spyker*
- 244** Reply *Richard S. Kent*
- 246** ■ BOOK REVIEWS
- 250** ■ ERRATA

### GUIDE FOR AUTHORS

The Guide for Authors is published in the January and July issues. It may be found on page 43A of this issue.

*ANESAV is a code word ("coden") used by the Chemical Abstract Service to identify the journal.*