

THIS MONTH IN *Anesthesiology*

Tidal Volume Lower than 6 ml/kg Enhances Lung Protection: Role of Extracorporeal Carbon Dioxide Removal 826

Lung injury was reduced when plateau pressure ranges between 28 and 30 cm H₂O and extracorporeal carbon dioxide removal were used. *See the accompanying Editorial View on page 699*

Epidural Analgesia in the Latent Phase of Labor and the Risk of Cesarean Delivery: A Five-year Randomized Controlled Trial..... 871

In more than 12,000 patients, epidural analgesia at cervical dilation of at least 1.0 cm did not prolong the progression of labor or increase the rate of cesarean delivery. *See the accompanying Editorial View on page 704*

Amnestic Concentrations of Etomidate Modulate GABA_{A,slow} Synaptic Inhibition in Hippocampus..... 766

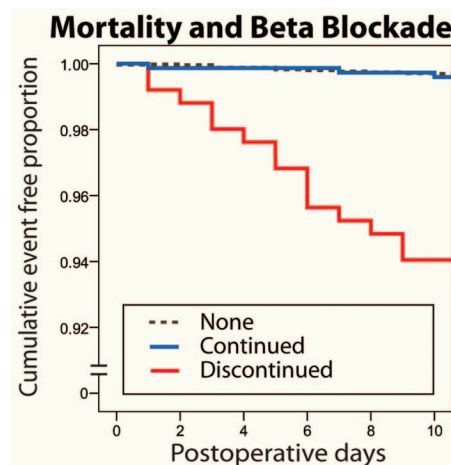
Concentrations of etomidate that impair memory prolonged the slow but not fast inhibitory currents in the hippocampus.

Adenosine: An Old Drug Newly Discovered (Review Article)..... 904

The biology of adenosine and the potential therapeutic applications in perioperative medicine are reviewed.

Effect of β -blocker Prescription on the Incidence of Postoperative Myocardial Infarction after Hip and Knee Arthroplasty 717

The American College of Cardiology/American Heart Association guidelines for Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery recommend β -blockade for selected low- and intermediate-risk noncardiac surgery patients. The authors evaluated the effect of perioperative β -blockade on postoperative myocardial infarction (POMI) in low-risk patients undergoing elective hip or knee arthroplasty surgery. Of 5,158 arthroplasty patients, 992 (18%) were treated with β -blockers on the day of surgery. POMI occurred in 77 (1.5%) patients. Prescribing a β -blocker on the day of surgery but discontinuing it during the first 7 days after surgery was significantly associated with POMI and death. These findings confirm the recommendations of the ACC/AHA not to withdraw β -blocker therapy after surgery. *See the accompanying Editorial View on page 690*



Operation Timing Does Not Affect Outcome after Coronary Artery Bypass Graft Surgery 785

Fatigue, circadian rhythms, scheduling, and staffing may have an impact on patient care over the course of a day. This study investigated whether the timing of coronary artery bypass graft surgery affects a composite morbidity outcome of six variables defined by the Society of Thoracic Surgeons including death, myocardial infarction, neurologic morbidity, serious infection, renal failure, and postoperative ventilatory support exceeding 72 h. The composite morbidity and in-hospital mortality rates were 4.8% and 1.4%, respectively. Operation timing did not significantly affect the composite morbidity outcome. Elective coronary artery bypass graft surgery can be scheduled at any time without compromising outcome.

Mechanical Ventilation Induces a Toll/Interleukin-1 Receptor Domain-containing Adapter-inducing Interferon β -dependent Inflammatory Response in Healthy Mice 836

Proinflammatory cytokines have been shown to play an important role in the development of mechanical ventilation (MV)-induced lung injury. The present study further investigated the role of Toll/interleukin-1 receptor complex in the development of the inflammatory response after MV. Both healthy mice and mutant mice lacking the Toll-like receptor 4 signaling pathways were studied. MV significantly increased messenger RNA expression of interleukin-1 β and other inflammatory markers in wild-type mice but not in the mutant mice lacking the signaling pathways. These mutant mice had normal cardiopulmonary physiology after MV. The current study further supports a prominent role for Toll-like receptor 4 signaling pathways in the development of the pulmonary and also the systemic inflammatory response after MV. *See the accompanying Editorial View on page 701*

Mortality Associated with Implantation and Management of Intrathecal Opioid Drug Infusion Systems to Treat Noncancer Pain 881

The authors investigated nine index cases to assess mortality rates among patients with intrathecal opioid pumps. Device registration and Social Security analyses revealed an intrathecal opioid therapy mortality rate of 0.088% at 3 days postimplantation, 0.39% at 1 month, and 3.89% at 1 yr. Mortality rates were not related to confounding variables. No device malfunctions associated with overinfusion were identified. Patients with noncancer pain treated with intrathecal opioid therapy experienced increased mortality compared with similar patients treated using other therapies. The exact causes for patient deaths and the proportion of those deaths attributable to intrathecal opioid therapy remain to be determined. *See the accompanying Editorial View on page 706*