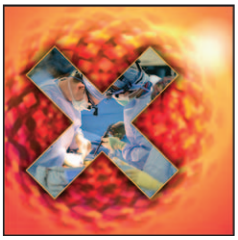
THIS MONTH IN

ANESTHESIOLOGY



450 Massive Hemorrhage: A Report from the Anesthesia Closed Claims Project

One hundred forty-one claims for which patient injury was attributed to hemorrhage were identified from among 3,211 closed surgical or obstetric anesthesia malpractice claims for injuries occurring between 1995 and 2011 in the Anesthesia Closed Claims Project database. Hemorrhage claims were most common in obstetrics and thoracic and lumbar spine surgery but also occurred during low-risk laparoscopic, robotic, and minimally invasive procedures. Anesthesia care contributed to poor outcome in 88% of claims and the surgeon contributed to patient injury in 99% of claims. Common features were risk factors for hemorrhage and coagulopathy and lack of timely diagnosis, transfusion, and return to the operating room. *See the accompanying Editorial View on* ***page 439***. *(Summary: M.J. Avram. Photo: J.P. Rathmell. Illustration: A. Johnson/Vivo Visuals.)*

482 Predictors of Functional Outcome after Intraoperative Cardiac Arrest

Intraoperative cardiac arrest (IOCA) is associated with high mortality rates despite occurring under conditions allowing immediate resuscitation. One hundred forty adults admitted to 1 of 11 participating intensive care units after successful resuscitation of IOCA between 2000 and 2013 were included in a retrospective study to identify factors associated with favorable 90-day functional outcomes, defined as a Cerebral Performance Category score of 1 or 2. Sixty-eight patients died before day 90 and 63 achieved good recovery. A worse day 1 Logistic Organ Dysfunction score independently predicted not achieving good outcome. Independent predictors of good outcome were ventricular fibrillation/tachycardia as the first recorded rhythm and no epinephrine to treat postcardiac arrest shock. *(Summary: M.J. Avram. Photo: J.P. Rathmell.)*

492 Effects of Dexamethasone on Cognitive Decline after Cardiac Surgery: A Randomized Clinical Trial

If the systemic inflammatory response to cardiac surgery and cardiopulmonary bypass (CPB) plays a role in the pathogenesis of postoperative cognitive decline (POCD), then suppressing it could reduce the incidence and severity of POCD. Two hundred ninety-one patients undergoing cardiac surgery with CPB were randomly assigned to receive dexamethasone, 1 mg/kg, or saline shortly after induction of anesthesia. At 1 month, 19 of 140 dexamethasone patients and 10 of 130 placebo patients met a strict definition of POCD. At 12 months, 8 of 115 dexamethasone patients and 4 of 114 placebo patients met this definition. These results do not support the hypothesis that postoperative inflammatory response plays a role in POCD. *(Summary: M.J. Avram. Photo: J.P. Rathmell.)*

655 This Is Not a Test! Misconceptions Surrounding the Maintenance of Certification in Anesthesiology Simulation Course (Clinical Concepts and Commentary)

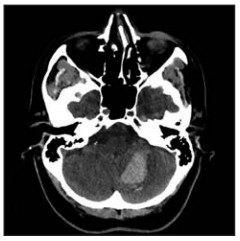
The Maintenance of Certification in Anesthesiology (MOCA) Simulation Courses are 6- to 8-h immersive learning experiences offered at 39 American Society of Anesthesiologists–endorsed Centers in 21 states. The courses address medical and technical skills of managing acute perioperative situations, including nontechnical skills of dynamic decision making and team management. There are no performance evaluations. Debriefing discussions provide opportunities for participants to reflect on their performance and that of their peers, with feedback from instructors and other course participants. The courses culminate in creation of practice improvement plans by participants. *(Summary: M.J. Avram. Photo: MGH Medical Photography.)*

459 Two Studies on Reversal of Opioid-induced Respiratory Depression by BK-channel Blocker GAL021 in Human Volunteers

The opioid receptor antagonist naloxone reverses not only opioid-induced respiratory depression but also analgesia. GAL021, which blocks calcium-activated potassium channels in the carotid bodies, dose-dependently increases ventilatory drive and antagonizes opioid-induced respiratory depression in animals without diminishing opioid-induced analgesia. In a double-blind, randomized, placebo-controlled crossover study, GAL021 stimulated ventilation in male volunteers with remifentanil-induced respiratory depression at a clamped and elevated end-tidal carbon dioxide partial pressure, increasing both tidal volume and respiratory rate. GAL021 also stimulated poikilocapnic ventilation during alfentanil administration, without affecting sedation, antinociception, hemodynamics, or safety parameters. *See the accompanying Editorial View on* ***page 442***. *(Summary: M.J. Avram. Photo: ©Thinkstock.)*

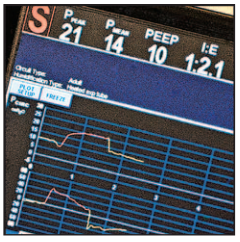
591 Antidepressant Drugs for Prevention of Acute and Chronic Postsurgical Pain: Early Evidence and Recommended Future Directions

Antidepressants could provide a treatment option in the management of postoperative pain. This systematic review of 15 randomized controlled trials (RCTs) of 8 antidepressants for treatment of acute postoperative pain and 3 RCTs of 3 antidepressants for prevention of chronic postoperative pain found insufficient evidence to support their use for these indications. Problems included limited numbers of RCTs for each antidepressant, small sample sizes, variable dosing, timing, and duration of treatment, poor procedure specificity, lack of clinically relevant outcomes, and inconsistent results. Because several positive trial results suggest the therapeutic potential of antidepressants, higher quality, more definitive trials of their use for these indications are needed. *(Summary: M.J. Avram. Photo: J.P. Rathmell.)*



644 A Patient on Dual Antiplatelet Therapy with an Intracranial Hemorrhage after Percutaneous Coronary Intervention (Case Scenario)

Stent placement occurs in up to 84% of percutaneous coronary intervention (PCI) procedures and necessitates use of dual antiplatelet therapy (DAT) to prevent stent thrombosis. The time during which uninterrupted DAT is required can be a problem if surgery is required or a bleeding complication occurs. The case of a 59-yr-old male who had a PCI performed with placement of two drug eluting stents 2 weeks earlier and DAT with aspirin and clopidogrel initiated postprocedure and now presents with a left paramedian cerebellar hemorrhage is presented. The indications for PCI, evolution of stent therapy, antiplatelet therapy and stents, and management of intracranial hemorrhage while on DAT are reviewed. *(Summary: M.J. Avram. Photo: Reproduced from original article in this issue of* Anesthesiology.*)*



572 Compressive Forces and Computed Tomography–derived Positive End-expiratory Pressure in Acute Respiratory Distress Syndrome

It has been suggested that higher positive end-expiratory pressure (PEEP) should be used only in patients with higher lung recruitability. Computed tomography (CT)-derived PEEP, the ideal pressure that would keep the lung completely open by overcoming compressive forces, was estimated in 51 acute respiratory distress syndrome (ARDS) patients and the relationship of these values to lung recruitability determined. While the relationship between the superimposed pressure and lung recruitability was weak, CT-derived PEEP was not related to lung recruitability. The average PEEP needed in ARDS patients to keep their lungs open was approximately the same (approximately 16 cm H_2O), independent of the amount of tissue to be kept open. *See the accompanying Editorial View on* ***page 445***. *(Summary: M.J. Avram. Photo: J.P. Rathmell.)*