

# THIS MONTH IN *Anesthesiology*

## Hemodynamic Changes Associated with Spinal Anesthesia for Cesarean Delivery in Severe Preeclampsia ..... 802

Spinal anesthesia did not significantly change cardiac output. See the accompanying Editorial Views on page 771 and page 773.

## Gerard W. Ostheimer "What's New in Obstetric Anesthesia" Lecture (Special Article) ..... 777

A review of the year's medical literature for obstetric anesthesia.

## Toxicology Profile of N-Methyl-D-aspartate Antagonists Delivered by Intrathecal Infusion in the Canine Model ..... 938

N-methyl-D-aspartate receptor antagonists produced dose-dependent spinal necrosis.

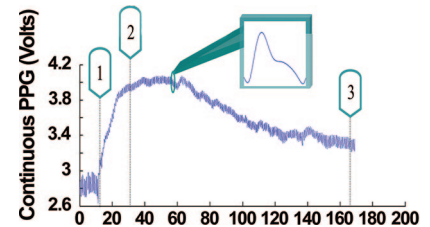
**CME**

## Practice Advisory for the Prevention and Management of Operating Room Fires: A Report by the American Society of Anesthesiologists Task Force on Operating Room Fires (Special Article) ..... 786

This article has been selected for the ANESTHESIOLOGY CME Program.

## The Photoplethysmogram in Circulatory Monitoring (Review Article) ..... 950

The photoplethysmogram is a noninvasive circulatory signal related to the pulsatile volume of blood in tissue. It is displayed by many pulse oximeters, along with the computed arterial oxygen saturation, and is similar in appearance to an arterial blood pressure waveform. Because the photoplethysmogram is noninvasive and nearly ubiquitous in the hospital, the extraction of circulatory information has been a popular subject of research. Reisner and colleagues examine the factors affecting the photoplethysmogram and the limitations of its use for evaluating the underlying circulation.



## Optic Nerve Blood Flow and Oxygen Delivery ..... 864

Perioperative ischemic optic neuropathy occurs after major surgical procedures, which are often associated with hypotension, anemia, or venous congestion. The effects of these conditions on optic nerve (ON) blood flow, cerebral blood flow (CBF), and oxygen delivery ( $DO_2$ ) were studied in isoflurane-anesthetized pigs because these conditions cannot be studied easily in humans. Pigs were subjected to conditions of euvolemic or hypovolemic hypotension, anemia (hematocrit 17%), venous congestion, and combinations of these conditions. During hypotension or anemia, compensatory mechanisms for porcine CBF maintain stable  $DO_2$ ; however, under the same conditions, ON blood flow did not maintain  $DO_2$ . The researchers conclude that the porcine ON is more susceptible to these physiologic perturbations than the brain. See the accompanying Editorial View on page 775

## Screening Sleep Apnea Patients ..... 812

Obstructive sleep apnea (OSA) is a major risk factor for perioperative adverse events. Chung and colleagues proposed to develop and validate a brief and easy-to-use questionnaire for OSA screening in surgical patients. The researchers recruited preoperative patients aged 18 yr or older and without previously diagnosed OSA. Four yes/no questions related to snoring, tiredness during daytime, observed apnea, and high blood pressure (STOP) were used to develop this screening tool. For validation, the score from the STOP questionnaire was evaluated against the apnea-hypopnea index from monitored polysomnography. By itself, the sensitivity of the STOP questionnaire was 74% and 79% in patients with moderate and severe OSA, respectively. When combined with body mass index, age, neck size, and gender, it had a greater than 90% sensitivity, especially in patients with moderate to severe OSA.

## Lipid versus Epinephrine Resuscitation of Bupivacaine Overdose ..... 907

Lipid emulsion infusion reverses cardiovascular compromise due to local anesthetic overdose in the laboratory and clinical settings. Weinberg and colleagues compared resuscitation with lipid emulsion or epinephrine versus saline control in a model of bupivacaine-induced cardiac toxicity. Bupivacaine toxicity was induced in isoflurane-anesthetized rats and ventilation and chest compressions were begun along with the drug treatment for bupivacaine toxicity. Hemodynamic and metabolic metrics for the quality of resuscitation were greater with lipid emulsion than those same metrics were for resuscitation with epinephrine. The authors note that further studies are required to optimize the clinical management of systemic local anesthetic toxicity.