

# THIS MONTH IN *Anesthesiology*

## Diabetic Cardiomyopathy and Anesthesia: Bench to Bedside (Clinical Concepts and Commentary) ..... 524

The characteristics of diabetic cardiomyopathy and its consequences on anesthetic management are reviewed.

## Understanding Methadone Metabolism: A Foundation for Safer Use (Editorial) ..... 351

Better understanding of methadone metabolism is likely to improve the safety and outcomes of methadone use in patients.

## Transient Hyperglycemia Affects the Extent of Ischemia-Reperfusion-induced Renal Injury in Rats ..... 402

Hyperglycemia that occurred during renal ischemia-reperfusion resulted in severe functional injury.

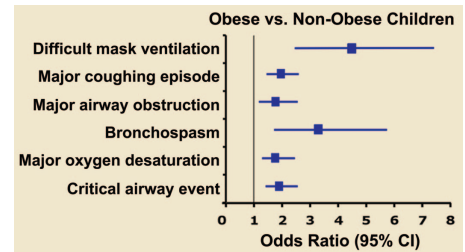
CME

## Metabolic Syndrome and Insulin Resistance: Perioperative Considerations (Review Article) ..... 506

This article has been selected for the ANESTHESIOLOGY CME Program.

## Anesthetic Management of Obese Children ..... 375

To study the relation between body mass index (BMI) and perioperative outcomes in children, Tait *et al.* prospectively collected data from 2,025 children presenting for surgery during a 20-month period. Using BMI classifications developed specifically for children, the team identified 17.3% of the children as obese. Incidence and severity of respiratory adverse events were recorded at five points throughout the perioperative period. Obese children had a higher incidence of difficult mask ventilation, airway obstruction, and oxygen desaturation. Although events were managed without serious sequelae, it is important to identify risk factors associated with obesity to optimize anesthetic care of these children.



## Do Airway Classifications Change during Delivery? ..... 357

Kodali *et al.* undertook two studies to evaluate airway changes associated with labor and delivery. In the first study of 61 parturients, the team used conventional Samssoon's modification of Mallampati airway class to classify airways at the onset and end of labor. In the second study, the team used acoustic reflectometry to measure upper airway volumes at the same junctures. During Study 1, there was a significant increase in airway class from pre- to postlabor, with 33% of patients increasing one grade higher. Study 2 revealed significant decreases in oral volume, pharyngeal area, and pharyngeal volume during labor and delivery. Due to these observed changes, it is essential to carefully evaluate a woman's airway just before administering anesthesia during labor rather than relying on prelabor data. See the accompanying Editorial View on page 347

## Therapeutic Potential for Endothelial Progenitor Cells? ..... 392

The regenerative potential of endothelial progenitor cells (EPCs) has been investigated in a variety of animal models of vascular injury and ischemia. In this issue, Lam *et al.* report on the effects of EPCs in a rabbit model of acute lung injury/acute respiratory distress syndrome (ALI/ARDS) that produced pulmonary endothelial dysfunction. Endothelial dysfunction was attenuated in rabbits treated with autologous EPCs, and infiltration and activity of leucocytes in the lung parenchyma was also significantly reduced. Transplanted EPCs might have the potential for becoming a cell-based, endothelium-targeted therapeutic strategy for the prevention and treatment of ALI/ARDS. See the accompanying Editorial View on page 354

## Understanding Mechanisms of Fracture Pain ..... 473

Pain from bone injury is poorly understood. Freeman *et al.* induced closed mid-diaphyseal fracture of the left femur 21 days after pin placements in male and female rats. The animals' pain behaviors were assessed at day 0 (before fracture) and at several days up to three weeks after fracture. There were no gender differences in degree of after-fracture guarding, flinching, and weight-bearing, or required morphine. Histologic analysis of bone and nerve tissues allowed characterization of the fracture pain and bone healing trajectories. Use of this fracture model could lead to discovery of analgesics to effectively treat fracture pain without inhibiting fracture healing. See the accompanying Editorial View on page 349