THIS MONTH IN
Anesthesiology

Incidence of Epidural Catheter-associated Infections after Continuous Epidural Analgesia in Children (Review Article) 224

These findings support the low rate of epidural infection in children.

Association between Epidural Analgesia and Cancer Recurrence after Colorectal Cancer Surgery 27

Epidural analgesia for perioperative pain control was not associated with decreased cancer recurrence.

Relationship between Anesthetic Depth and Venous Oxygen Saturation during Cardiopulmonary Bypass 35

Mixed venous oxygen saturation did not associate with anesthetic depth.

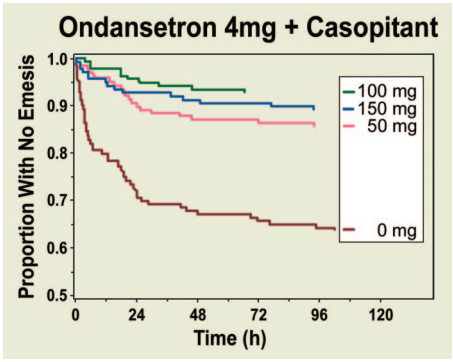
Supernatant of Aged Erythrocytes Causes Lung Inflammation and Coagulopathy in a "Two-Hit" *In Vivo* Syngeneic Transfusion Model 92

Stored rat erythrocytes cause lung injury both in healthy and in lipopolysaccharide-primed rats. *See the accompanying Editorial View on* **page 1**

Preconditioning and Postinsult Therapies for Perinatal Hypoxic–Ischemic Injury at Term (Review Article) 233

The pathophysiology and current status of neuroprotective strategies for hypoxic-ischemic encephalopathy are reviewed.

Phase II Study to Evaluate the Safety and Efficacy of the Oral Neurokinin-1 Receptor Antagonist Casopitant (GW679769) Administered with Ondansetron for the Prevention of Postoperative and Postdischarge Nausea and Vomiting in High-risk Patients 74



This randomized multicenter study evaluated a multimodal approach to reduce postoperative nausea and vomiting (PONV) using an oral dose of the neurokinin-1 receptor antagonist casopitant and an intravenous dose of ondansetron hydrochloride in premenopausal or perimenopausal adult women (N = 702) with a history of PONV and/or motion sickness undergoing a laparoscopic/laparotomic gynecologic surgical procedure or laparoscopic cholecystectomy with general anesthesia. Patients received ondansetron 4 mg with or without casopitant (0 mg, 50 mg, 100 mg, or 150 mg) or casopitant alone. A significantly greater proportion of patients in all of the active casopitant plus ondansetron groups achieved a complete response (no vomiting, retching, rescue medication, or premature withdrawal during the first 24 h after anesthesia) *versus* ondansetron alone (59–62% *vs.* 40%, respectively). All active doses were well tolerated. Combination therapy with casopitant and ondansetron protected against PONV in the 24-h postoperative period.

Rapid Chemical Antagonism of Neuromuscular Blockade by L-Cysteine Adduction to and Inactivation of the Olefinic (Double-bonded) Isoquinolinium Diester Compounds Gantacurium (AV430A), CW 002, and CW 011 58

Gantacurium is an ultra-short-acting neuromuscular blocker that is rapidly chemically degraded *in vitro via* L-cysteine adduction and preliminary data suggest that exogenous intravenous L-cysteine abolishes gantacurium blockade. CW 002 and CW 011 are two new analogues of gantacurium designed to have increased durations of action. The rate of L-cysteine adduction *in vitro* ($t_{1/2}$) was longer for the analogues compared with gantacurium (CW 002, 11.4 min; CW 011, 13.7 min; and gantacurium, 0.2 min) and was inversely related to blockade duration. CW 002 and CW 011 were three times longer acting than gantacurium (28.1 and 33.3 min *vs.* 10.4 min), but only half the duration of cisatracurium. Intravenous L-cysteine abolished blockade 2 to 3 min after approximately 4–5 × ED_{95} doses of all three compounds. Modification of gantacurium analogues alters the rate of neuromuscular blockade which may be inactivated by L-cysteine administration.

Inhaled Hydrogen Sulfide Protects against Ventilator-induced Lung Injury 104

Hydrogen sulfide–induced hypothermia and suspended animation–like states may offer cytoprotection and antiinflammatory and antiapoptotic effects in mechanically ventilated patients, and may reduce ventilator-induced lung injury (VILI). In this *in vivo* study, mice received hydrogen sulfide (80 parts per million) while ventilated with a tidal volume of 12 ml/kg body weight for 6 h with synthetic air, and in a second series, at either mild hypothermia or normothermia. VILI occurred after mechanical ventilation after both hypothermia and normothermia characterized by pulmonary edema increased apoptosis, cytokine release, neutrophil recruitment, and up-regulation of the stress proteins heme oxygenase-1 and heat shock protein 70. These effects were prevented in mice administered hydrogen sulfide during ventilation at either mild hypothermia or normothermia. Inhalation of hydrogen sulfide during mechanical ventilation protects against VILI by inhibition of inflammatory and apoptotic responses independently of its ability to induce mild hypothermia during ventilation. *See the accompanying Editorial View on* **page 4**