THIS MONTH IN *Anesthesiology*

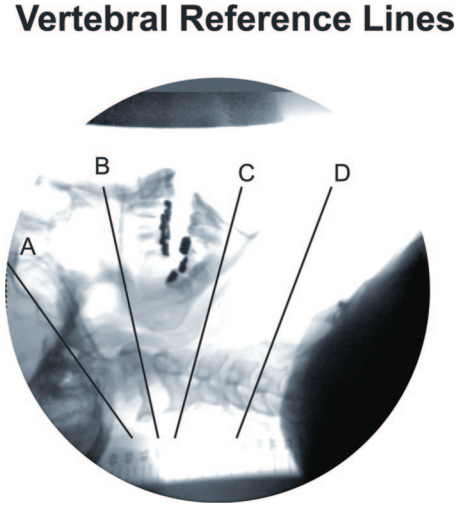
Hydroxyethyl Starches: Different Products – Different Effects (Review Article) 187
New generation of hydroxyethyl starches are reviewed.

Ultrasound Assessment of Gastric Content and Volume 82
Two dimensional ultrasonography can reliably assess gastric volume.

Coapplication of Lidocaine and the Permanently Charged Sodium Channel Blocker QX-314 Produces a Long-lasting Nociceptive Blockade in Rodents. 127
Lidocaine plus QX-314 enables entry of QX-314 into nociceptors. *See the accompanying Editorial View on page 12.*

Success of Spinal and Epidural Labor Analgesia: Comparison of Loss of Resistance Technique Using Air *versus* Saline in Combined Spinal-Epidural Labor Analgesia Technique 165
Spinal/epidural success are independent of whether air or saline loss of resistance is used.

Cervical Spine Motion: A Fluoroscopic Comparison of the AirTraq Laryngoscope *versus* the Macintosh Laryngoscope. 97



To identify the optimal technique to intubate the trachea of patients presenting with a potential documented cervical spine (C-spine) injury, laryngoscopy with an AirTraq Laryngoscope® was compared with a Macintosh blade using continuous fluoroscopic video assessment. In this crossover, randomized controlled trial, 24 surgical patients received both Macintosh and AirTraq laryngoscopy with manual inline stabilization following induction of anesthesia. The C-spine motion and time required for laryngoscopy were assessed. There was 66% less C-spine motion at occiput to C1, C2 to C5, and C5 to the thoracic spine when the AirTraq was used ($P < 0.01$). There was no difference in motion at the C1 to C2 segment, nor duration of laryngoscopy. Use of the AirTraq Laryngoscope may be useful to limit movement without increasing the duration of intubation in patients in whom C-spine movement is undesirable.

Impact of Gene Copy Number Variation on Anesthesia in *Drosophila melanogaster* 15
The effects of copy number variation, resulting from chromosomal deletions and duplications, on sensitivity to volatile anesthetics have not been assessed in any organism. The potency of halothane-depression of the righting reflex in more than 200 congenic heterozygous *Drospophila* strains with deletions of ~400 kb was measured. Eight heterozygous deletion strains significantly altered sensitivity to halothane (ranging from a 25% increase to a 15% decrease) and further tests indicated anesthetic sensitivity was due to reduction in gene copy number. These same 8 lines also had altered sensitivity to enflurane, isoflurane, and sevoflurane. This study provides a rationale for investigating the clinical impact of gene copy number variation on anesthetic sensitivity. *See the accompanying Editorial View on* **page 5.**

Preoperative Melatonin and Its Effect on Induction and Emergence in Children. 44
Although preoperative melatonin has demonstrated beneficial effects in adults, there is a paucity of data in children undergoing anesthesia and surgery. Children were randomly assigned to receive preoperative oral midazolam (0.5 mg/kg) or oral melatonin (0.05 mg/kg, 0.2 mg/kg or 0.4 mg/kg) to assess preoperative anxiety, children's compliance with induction, emergence behavior, and parental anxiety. Children who received midazolam were less anxious compared with children who received any dose of melatonin ($P < 0.001$). However, the incidence of emergence delirium was 25.6% after 0.5 mg/kg midazolam compared with 25.0%, 8.3%, and 5.4% after 0.05 mg/kg, 0.2 mg/kg, and 0.4 mg/kg melatonin, respectively ($P < 0.005$). Midazolam is more effective than melatonin in reducing children's anxiety at induction of anesthesia. Melatonin produced a dose-dependent reduction on emergence delirium indicating this drug may be used to prevent this adverse effect of anesthesia in children.

Estimation of the Minimum Effective Anesthetic Volume of 2% Lidocaine in Ultrasound-guided Axillary Brachial Plexus Block. 25
Although ultrasound guidance facilitates precise needle and injectate placement, increasing axillary block success rates, reducing onset times, and permitting local anesthetic dose reduction, the minimum effective volume local anesthetic in ultrasound-guided axillary brachial plexus block (USABP) is unknown. Patients undergoing hand surgery of less than 90 min duration were enrolled. The first patient received a starting dose of 4 mL/nerve 2% lidocaine with epinephrine (5 micrograms/mL) and if the block was successful (as assessed by an assistant blinded to treatment) the dose was increased by 0.5 mL; if block failure occurred the dose was increased by 0.5 mL. Based on a predetermined stopping point, the study was terminated when 5 consecutive patients had successful blocks using 1 mL/nerve 2% lidocaine with epinephrine ($n = 11$). All patients received surgical anesthesia within 10 min, the mean block performance time was 445 seconds, and the median block duration was 190 min. The authors conclude that successful USABP may be performed with 1mL/nerve of 2% lidocaine with epinephrine.

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