Jean Mantz, M.D., Ph.D., Editor

Perioperative Medicine

Postoperative complications in patients with obstructive sleep apnea. Chest 2012; 141:436–41

A retrospective study compared two groups of patients who had undergone major noncardiac surgery and who had undergone a polysomnography study for assessing obstructive sleep apnea (OSA) syndrome within 3 yr. The patients with an apnea-hypopnea index of 5 or more (282) were defined as OSA, and the remaining patients (189) served as the control group. Both groups were adjusted and classified according to a propensity score. The presence of OSA syndrome was associated with a higher risk of hypoxemia, postoperative complications, and longer hospital stay (fig. 1). The severity of OSA was not associated with a greater incidence of complications.

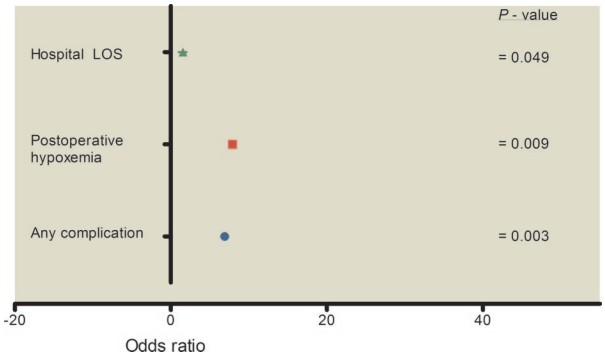

Fig. 1. Obstructive sleep apnea was associated with a higher risk of hospital length of stay (LOS), hypoxemia, and postoperative complications. *Asterisk*, *square*, and *circle* indicate odds ratio.

Placebo-controlled trial of amantadine for severe traumatic brain injury. N Engl J Med 2012; 366:819–26

Severe traumatic brain injury is a catastrophic event with devastating social, familial, and economic consequences. The efficacy of amantadine in improving disabilities in patients with posttraumatic disorders of consciousness has been suggested in previous pilot studies. In this prospective, randomized, blinded, and placebo-controlled trial, the authors demonstrate that amantadine, in doses up to 150 mg daily for 4 weeks, significantly accelerates the rate of functional recovery

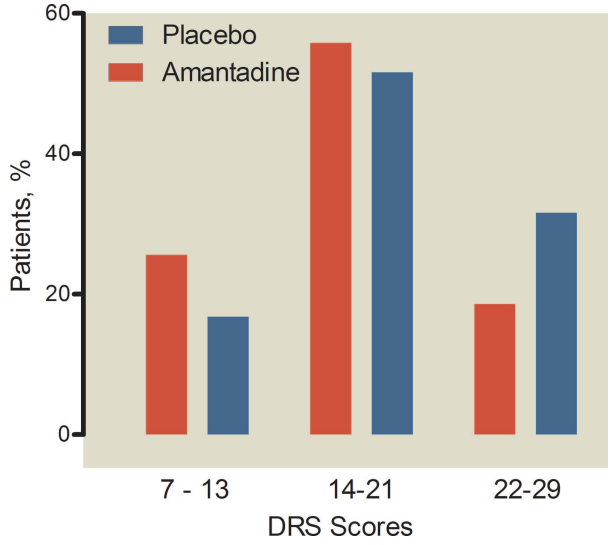

Fig. 2. Distribution of Disability Rating Scores (DRS) after 4 weeks of amantadine or placebo treatment. Patients exhibited moderately severe disability (7–13); severe-to-extremely severe disability (14–21); and vegetative state to extreme vegetative state (22–29).

at 6 weeks *versus* placebo (fig. 2). No significant difference in adverse effects was found between the amantadine and placebo groups. These results suggest that amantadine may be useful in improving disability 4 weeks after severe traumatic brain injury. Later, long-term benefit has not yet been proven.

Multivariate analysis of risk factors for pulmonary complications after hepatic resection. Ann Surg 2012; 255:540–50

Postoperative pulmonary complications increase morbidity, length of stay, and costs after surgery. This large prospective cohort study evaluated predictors of postoperative pulmonary complications after liver resection. Five independent predictive factors were identified (table 1): prolonged surgery, presence of a nasogastric tube, intraoperative blood transfusion, diabetes mellitus, and transverse subcostal bilateral muscle-cutting incision. These findings offer

Table 1. Predicators of Postoperative Pulmonary Complications

Predictor	Odds Ratio (95% CI)	*P* Value
Prolonged surgery	1 (1–1.1)	0.04
Presence of a nasogastric tube	1.6 (1.1–2.5)	0.02
Intraoperative blood transfusion	1.7 (1.1–2.9)	0.02
Diabetes mellitus	2.7 (1.4–5.2)	0.03
Transverse subcostal bilateral muscle-cutting incision	3.4 (2.1–5.6)	0.0001

 Anesthesiology 2012; 116:1364–6

simple and modifiable targets to reduce the occurrence of pulmonary complications after liver resection.

Impact of progression of diastolic function on mortality in patients with normal ejection fraction. Circulation 2012; 125:782–8

Diastolic dysfunction is associated with congestive heart failure symptoms, even in patients with preserved left ventricular function. Whether worsening of diastolic dysfunction is associated with worse prognosis is unknown. A retrospective cohort of 1,065 consecutive outpatients undergoing echocardiography was followed for 6–24 months. Progressive worsening of left ventricular ejection fraction of less than 55%, together with any grade of deterioration of diastolic dysfunction, was an independent predictor of mortality. Left ventricular dysfunction is present in many surgical patients preparing for anesthesia and surgery. Identification and optimization of these patients in the perioperative period is needed.

Critical Care Medicine

Use of video laryngoscopy and camera phones to communicate progression of laryngeal edema in assessing for extubation: A case series. J Intensive Care Med 2012; doi:10.1177/0885066612437528

Some clinicians use laryngoscopic exams to define the appropriate tracheal extubation time in patients with airway edema and potential postextubation failure. The authors present a series of cases in which video laryngoscopy-derived images were captured on cell phone cameras. The images were used to longitudinally evaluate the retroglossal and laryngeal airway anatomy. The images were copied into the patients' electronic acute care document, to improve communication at shift handover.

Initial trophic *versus* full enteral feeding in patients with acute lung injury: The EDEN randomized trial. JAMA 2012; 307:795–803

Early enteral nutrition improves outcomes in patients in the intensive care unit. There is a controversy, however, as to whether mechanically ventilated patients with ARDS would benefit from early full enteral or lower-volume trophic feeding. The EDEN randomized trial found no significant difference in the number of ventilator-free days between patients who were fed either with full (1,300 kcal/day) or trophic (lower-volume; 400 kcal/day) enteral support for the initial 6 days. There was no difference in infectious complications, mortality, or delay to hospital discharge between the groups (fig. 3). Full enteral feeding was associated with less gastrointestinal intolerance. These results do not support a full enteral feeding strategy in this patient subpopulation.

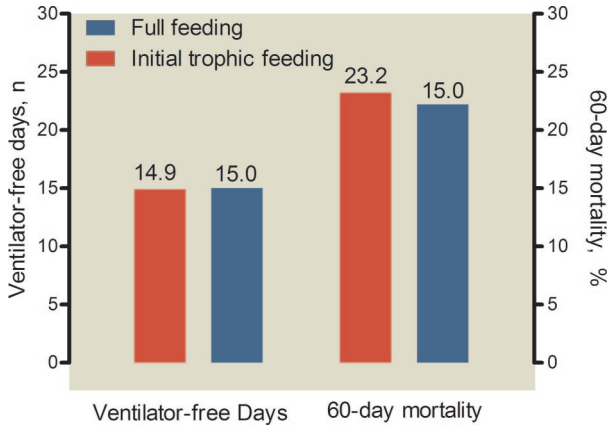

Fig. 3. Ventilator-free days (P = 0.89) and 60-day mortality (P = 0.77) were similar between the initial trophic and full feeding groups.

Pain Medicine

Modulation of remifentanil-induced postinfusion hyperalgesia by the β-blocker propranolol in humans. Pain 2012; doi: 10.1016/j.pain.2012.01.014

In an excellent "mouse to man story," the authors previously identified the β2-adrenergic receptor as being important for the development of opioid-induced hyperalgesia using an "in silica" genetic screening study. In the current human volunteer trial, the authors conducted a double-blind, randomized crossover trial in which they evaluated the area of secondary hyperalgesia induced by remifentanil in the presence and absence of the β-blocker, propranolol. The increase in secondary hyperalgesia was significantly blocked by propranolol (fig. 4). β2-adrenergic blockade might be useful for reducing opioid hyperalgesia when high-dose opioids are used during

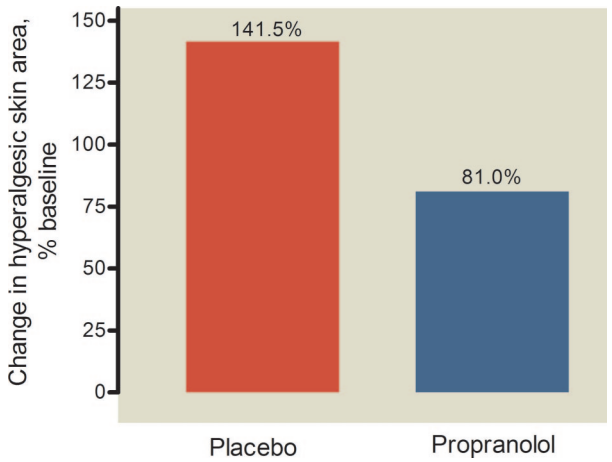

Fig. 4. Area of hyperalgesia measured 60 min after remifentanil infusion. Hyperalgesic areas enlarged significantly in patients who received placebo infusion (P = 0.00040), but not in patients who received propranolol (P = 0.13).

surgery. This study also provides proof of principle for the ability to translate "in silico" screening techniques in animal models.

Lidocaine patch (5%) produces a selective, but incomplete block of A-δ and C fibers. Pain 2012; 153:273–80

Only 30–80% of patients experience pain relief from topical lidocaine (5%). The reasons for the lack of response in some patients are not known. In this blinded study of healthy volunteers, topical lidocaine (5%) induced thermal hypoesthesia and pinprick hypoalgesia but did not completely block these responses. These findings support that topical lidocaine has only a partial blocking effect of A-δ and C fibers of unpredictable extent. The next question to address is whether patients with poor analgesic effect are precisely those with insufficient small-fiber block. This could favor strategies to improve efficacy of topical lidocaine in clinical practice.