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

## Perioperative Medicine

### Failure to recapture cardioprotection with high-dose atorvastatin in coronary artery bypass surgery: A randomised controlled trial. Basic Res Cardiol 2011; 106:1387–95

Studies on the cardioprotective effects of statins such as atorvastatin have proved mixed results. Two prospective, randomized controlled, single-blinded studies of patients scheduled to undergo elective coronary artery bypass graft surgery were conducted to determine the effects of 160 mg atorvastatin either 2 (study 1) or 12 (study 2) hr preoperatively and continued for 24 h after surgery. Although high-dose atorvastatin was not associated with significant side effects, no protective effects were observed, either. Serum troponin T and creatine kinase at all time-points in both studies were similar to controls (fig. 1). This study does not support the use of high-dose atorvastatin preoperatively for cardioprotection in low-risk patients currently taking statins and who are undergoing coronary artery bypass graft surgery.

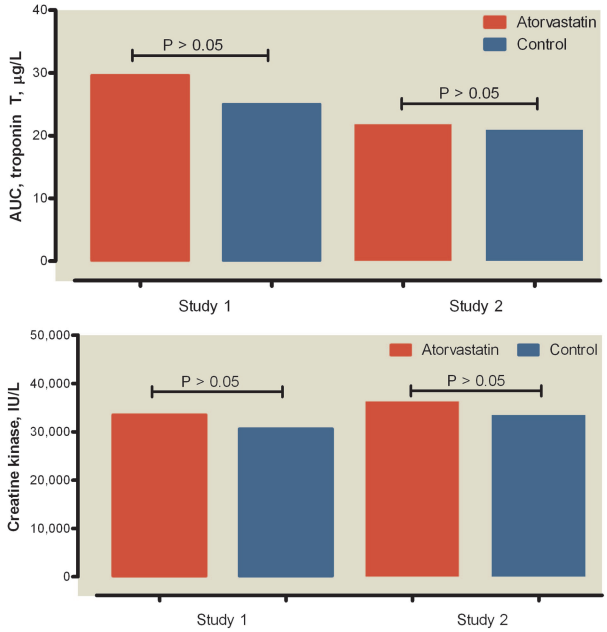


**Fig. 1.** Serum troponin T and creatine kinase levels were similar between atorvastatin and controls when administered either 2 or 12 h preoperatively in studies 1 and 2, respectively.

 Anesthesiology 2012; 117:648–50

### Two-year outcomes after transcatheter or surgical aortic-valve replacement. N Engl J Med 2012; 366:1686–95

This 25-center trial randomized high-risk patients (n = 699) with severe aortic stenosis to undergo aortic valve replacement by transcatheter aortic valve replacement (TAVR); transapical or transfemoral approaches were used. The comparison group was open cardiac surgery. Although 30-day and 1-yr postvalve replacement outcomes were previously reported, the current paper described outcomes 2 yr after aortic valve replacement. There were no significant differences in 2-yr rates of mortality, cardiovascular mortality, or stroke in the two study groups ($P > 0.05$). However, the presence of moderate or severe paravalvular leak was significantly increased in the TAVR group at 2 yr (6.9% *vs.* 0.9%; $P < 0.001$). In the TAVR group, mild to severe paravalvular leak ($P < 0.001$) and total aortic regurgitation ($P = 0.006$) were accompanied by significantly reduced 2-yr survival (fig. 2). This suggests that paravalvular leak after TAVR introduces a mortality risk that should be addressed by future studies and that should possibly be considered when TAVR patients present for other surgeries or procedures.

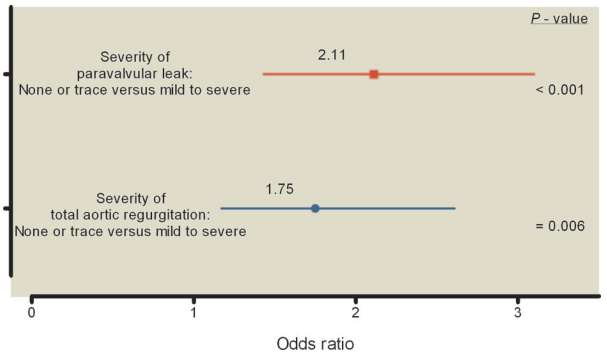


**Fig. 2.** Hazard ratio of relation of aortic regurgitation to all-cause mortality in the transcatheter aortic valve replacement-treated population.

## Critical Care Medicine

### Delirium in critically ill patients: Impact on long-term health-related quality of life and cognitive functioning. Crit Care Med 2012; 40:112–8

The long-term impact of delirium experienced by patients in the intensive care unit (ICU) has not been well studied. A prospective study was conducted to examine the impact of delirium during ICU stay on health-related quality of life and

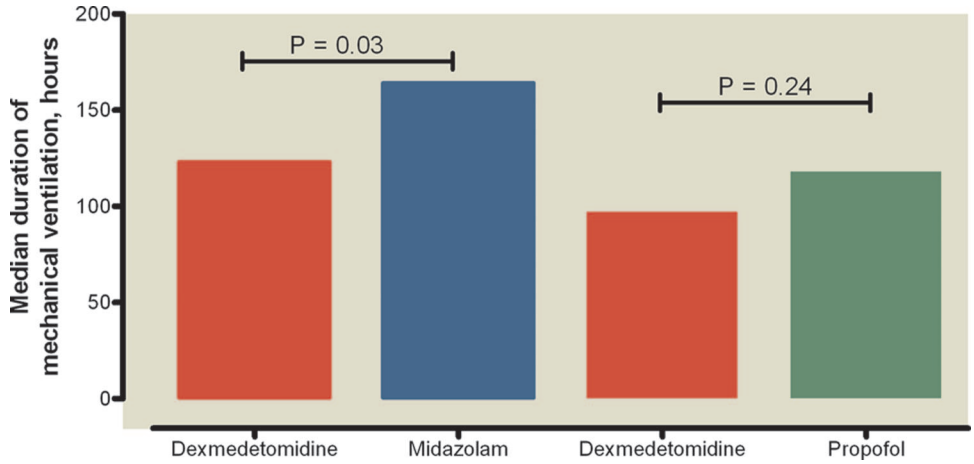


**Fig. 3.** Patients who received dexmedetomidine experienced a shorter median duration of mechanical ventilation compared with midazolam, but a similar duration compared with propofol.

cognitive function 18 months after ICU discharge. Using the Short Form-36v1 questionnaire, no differences were observed between patients with delirium (n = 272) and those without (n = 1,020). However, duration of delirium was correlated to problems with memory and names. This study suggests that delirium may play some role in long-term quality of life outcomes in ICU-survivors; however, additional studies are needed.

### Dexmedetomidine *versus* midazolam or propofol for sedation during prolonged mechanical ventilation: Two randomized controlled trials. JAMA 2012; 307:1151–60

Despite its known benefits, long-term sedation is associated with severe adverse effects. Two phase III multicenter, randomized, double-blind trials were conducted to determine the efficacy of dexmedetomidine *versus* midazolam (MIDEX trial, n = 500) or propofol (PRODEX trial, n = 498) in mechanically ventilated patients in the intensive care unit. Median durations of mechanical ventilation were not inferior for dexmedetomidine compared with midazolam or propofol (fig. 3). Rates of hypotension ($P = 0.007$) and bradycardia ($P > 0.001$) were significantly higher in patients who received dexmedtomidine compared with midazolam. Although dexmedetomidine was found to be noninferior to midazolam and propofol in terms of sedation maintenance, it was associated with an increased rate of adverse effects. Therefore, dexmedetomidine does not present an improvement on preferred usual care for sedation of mechanically ventilated patients in the intensive care unit.

## Pain Medicine

### Bilateral sensory abnormalities in patients with unilateral neuropathic pain; a quantitative sensory testing (QST) study. PLoS ONE; 7:e37524

Few investigators have studied the presence of bilateral sensory abnormalities in patients with chronic pain. The

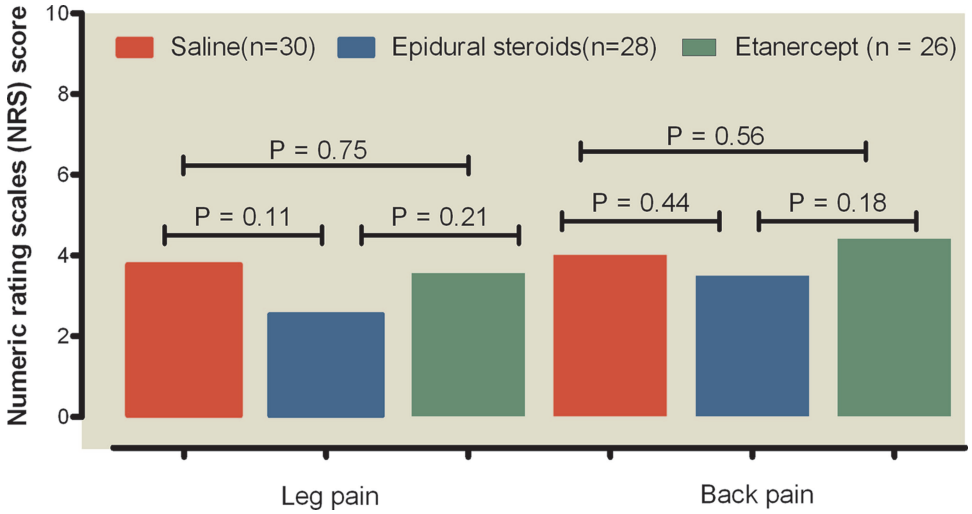


**Fig. 4.** Epidural steroids showed the greatest reductions in leg and back pain compared with saline or etanercept.

current study used the standardized quantitative sensory testing protocol to investigate somatosensory function on the painful and nonpainful side in healthy subjects (n = 209) and patients (n = 81) with unilateral neuropathic pain. Among healthy subjects, 36% showed a sensory abnormality for at least one quantitative sensory testing parameter, most of which were sensory gains. Nearly all patients in the neuropathic group (91%) had at least one quantitative sensory testing abnormality on the affected side, and 74% on the contralateral side. Some patients (35%) experienced a mixture of sensory gain and loss on the contralateral side. This study confirms that changes on the contralateral side in patients with unilateral neuropathic pain are common, and should be considered in the patient evaluation pathway.

## Epidural steroids, etanercept, or saline in subacute sciatica: A multicenter, randomized trial. Ann Intern Med 2012; 156:551–9

Radiculopathy occurs in a large portion of patients with low back pain and is generally associated with activation of inflammatory pathways. A multicenter, three-group, randomized, placebo-controlled trial was conducted in adults with recent (less than 6 months' duration) lumbosacral radiculopathy to evaluate the effects of epidural steroids, etanercept, or saline. Although not significant, patients who received epidural steroids demonstrated the greatest reduction in leg pain 1 month after the second injection (fig. 4). Epidural steroids also provided greater improvements in back pain. Therefore, larger studies with long-term follow-up are required to confirm the superiority of epidural steroids for patients with lumbosacral radiculopathy.