Lighter Sedation For Elderly In Surgery May Reduce Disorientation

A common complication following surgery in elderly patients is postoperative delirium, a state of confusion that can lead to long-term health problems and cause some elderly patients to complain that they “never felt the same” again after an operation. But a new study by Johns Hopkins researchers suggests that simply limiting the depth of sedation during procedures could safely cut the risk of postoperative delirium by 50 percent.

“Merely by adjusting how a person is sedated can have a profound effect on their postoperative cognitive state,” says study leader Frederick E. Sieber, an associate professor of anesthesia at the Johns Hopkins School of Medicine and director of Anesthesiology at Johns Hopkins Bayview Medical Center.

Sieber says that propofol, a short-acting anesthetic commonly used to induce anesthesia and keep patients asleep, and similar anesthetics may not behave as the clear “on/off phenomena” they were long thought to be, with effects disappearing as soon as the drugs are withdrawn.

“What our study indicates,” he said, “is that there may be lingering effects of anesthesia that heretofore may not have been appreciated, especially in the elderly.”

In a double-blind randomized study of 114 patients undergoing hip fracture repair at Johns Hopkins Bayview Medical Center, patients first received spinal block anesthesia and were then either lightly sedated with propofol or more deeply sedated with the same medication. The prevalence of postoperative delirium was significantly lower in the group that was lightly sedated. The findings, which appear in the January issue of Mayo Clinic Proceedings, suggest that one incident of delirium could be prevented for every 4.7 patients treated with light sedation. The average age of the patients in the study was 81.

In addition to decreasing the prevalence of postoperative delirium in the study’s patients, lighter sedation was associated with a one-day reduction in the duration of delirium in those patients who still emerged from surgery confused and disoriented.

Deeply sedated patients were unresponsive during surgery, while the lightly sedated patients were able to respond to questions. Researchers judged how deeply sedated the patient became by placing an EEG monitor on the patient’s forehead.

The prevalence of delirium in elderly patients after hip fracture repair surgery has been estimated, in various studies, at between 16 percent and 62 percent. While it usually resolves after 48 hours, delirium can persist and is associated with poor

functional recovery, increased length of hospital stay, higher costs and a greater likelihood of placement in an assisted living facility after surgery. It may even increase the risk of death in the first year after surgery, according to Sieber.

Surgeons and anesthesiologists for years have struggled with the question of whether the postoperative delirium they see in their elderly patients is caused by the anesthesia they are using during surgery. Sieber and his colleagues hypothesize that some drug-induced alteration of brain activity is increasing the cognitive dysfunction in those who are more deeply sedated, though the exact mechanism remains uncertain.

Sieber says it is unclear whether the results would be the same with different sedative drugs or with patients who have more serious cognitive impairment prior to surgery. The patients in this study were either cognitively intact or had mild to moderate cognitive problems before having hip surgery.

Sieber says that reducing the depth of sedation is a simple and cost-effective way to attack this problem, which is seen more often as the population continues to age. He hopes this study will change the practices of fellow anesthesiologists and help reduce the number of patients who suffer from postoperative delirium.

“Elderly patients, when they come to surgery, often are not afraid of dying; they want to know if they’ll return to the same functional level—mental as well as physical—as before surgery,” Sieber said. “That’s what their real worries are.”

In addition to Sieber, Johns Hopkins researchers on the study were Khwaja J. Zakriya, Allan Gottschalk, Mary-Rita Blute, Hochang B. Lee, Paul B. Rosenberg and Simon C. Mears.

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