Titration of Sevoflurane in Elderly Patients: Blinded, Randomized Clinical Trial, in Non-Cardiac Surgery after Beta-Adrenergic Blockade.

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Background

Monitoring depth of anesthesia via the processed electroencephalogram (EEG) has been found useful in reducing the amount of anesthetic drugs, optimizing wake-up times, and, in some studies, reducing awareness. Our goal was to determine if titrating sevoflurane as the maintenance anesthetic to a depth of anesthesia monitor (SEDLine, Masimo, CA) would shorten time to extubation in elderly patients undergoing non-cardiac surgery while on beta-adrenergic blockade. This patient population was selected because the usual cardiovascular signs of inadequate general anesthesia may be masked by beta-blocker therapy.

Methods

Surgical patients older than 65 years of age receiving beta-adrenergic blockers for a minimum of 24 h preoperatively were randomized to two groups: a group whose titration of sevoflurane was based on SEDLine data (SEDLine group) and a group whose titration was based on usual clinical criteria (control group) where SEDLine data were concealed. The primary endpoint was time from skin closure to time to extubation. Aldrete score, White Fast Track score and QoR-40 were also assessed.

Results

There was no significant difference in time to extubation [12.5 (SD 7.4) min in the control group versus 13.0 (SD 5.9) min for the treatment group]. The control group used more fentanyl [339 mcg (SD 205)] than did the treatment group [238 mcg (SD 123)] ($P<0.02$). There was no difference in sevoflurane utilization, Aldrete, White Fast Track scores, time to PACU discharge, or QoR-40 assessments between the groups.

Conclusion

Use of the SEDLine monitor's data to titrate sevoflurane did not improve the time to extubation or change short-term outcome of geriatric surgical patients receiving beta-adrenergic blockers.