

Bigger and bigger challenges: Evidence-based or expert-opinion based practice?

As our patients get older, sicker, and especially larger, the anesthesia provider has to change the preparation, planning, and performance of their craft. The art and science of anesthesia demands a safe anesthetic each and every time and failure is never an option.

In the morbidly obese patients, special care has to be taken in terms of vigilance and detail to ensure that the patient is optimized at the end of surgery to facilitate rapid discharge and quick return to baseline function. Toward this end is the decision of which volatile agent is optimal intraoperatively. The debate of Desflurane versus Sevoflurane continues. The early studies, over a decade ago, of picking the optimal agent include two papers, where Propofol, isoflurane, and Desflurane were compared in one, and Desflurane and Sevoflurane were compared in head-to-head trial with BIS monitoring in the other. The earlier study by Juvin *et al.*, published in *Anesthesia Analgesia* (2000), compared Desflurane, Propofol, and isoflurane.^[1] It evaluated cases where BIS was maintained between 45 and 55, the time from discontinuation of study drug to eye opening, extubation, orientation, and capacity of patients to transfer themselves from OR table to stretcher. Immediate recovery with eye opening, time to extubation, and stating name occurred faster and more consistently with Desflurane than with Propofol or isoflurane. In the Desflurane group of patients at PACU admission, SpO₂ was higher; the patients were less sedated, and consequently more mobile. They also examined alertness, pain, postoperative nausea and vomiting (PONV), and time to PACU discharge readiness. Psychometric testing, discharge time, PONV, and pain scores showed no differences. In 2003, DeBaerdmaeker published in *BJA*, comparisons between Desflurane and Sevoflurane in terms of depth of anesthesia, hemodynamic stability, and recovery time in gastropasty cases. His group also used BIS to guide anesthetic agent along with target-controlled infusions of remifentanyl. He found fewer episodes of hypertension with Desflurane, but time to spontaneous breathing was equal.

Statistically, eye opening, extubation, airway maintenance, and orientation occurred sooner in the Desflurane group.

Contrariwise, 2 years later, Arian's group from Milwaukee also looked at the difference between Sevoflurane and Desflurane in 40 morbidly obese patients. Forty morbidly obese patients, of BMI >35 kg/m², undergoing elective surgery projected to last more than 2 h were titrated with BIS between 45 and 50 which was allowed to increase to 60 in the last 15 min of surgery. Intraoperative anesthetic concentrations, BIS, and intraoperative hemodynamics were recorded, which showed no difference between the two groups. At emergence, times to follow commands, mini mental status test (MMST), and psychomotor performance via digit symbol substitution test (DSST) were also evaluated. Intraoperative hemodynamics, time to follow commands and to extubation, and DSST and MMST did not differ statistically or more significantly clinically, between the anesthetic groups during recovery.

In this issue, Kaur *et al.* cover a similar theme in an article titled "Hemodynamics and early recovery characteristics of Desflurane versus Sevoflurane in bariatric surgery."^[2] The paper seems to indicate that Desflurane may be slightly superior to Sevoflurane in the management of the general anesthetic of the morbidly obese in terms of anesthetic recovery. Their data supports superiority of Desflurane only for "intermediate" recovery, not "early" or "late" recovery; based on response to pain, obeying verbal commands, Aldrete scores and DSST recovery. It seems that some differences are noticed in the two groups in this study, which are statistically significant. Are these clinically significant remains questionable to me. I believe that a good anesthesia provider, by careful titration, can modify techniques, based on available tools (drugs or equipment), to get a clinically equivalent result at the end of the day.

Kaur and her colleagues bring out some salient clinical practice parameters that should be routinely followed in caring for the morbidly obese, like ramping the patient for induction and intubation, the head elevated laryngoscopy position (HELP), though they do not use that terminology. The only questionable practices that seem non-standard are the use of arterial catheters (in the absence of cardiac disease, or impossible to apply blood pressure cuffs) along with central line placement for guiding fluid therapy (in the absence of compromised cardiac function or impossible peripheral IV

Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/0970-9185.105780

line placement), since none was mentioned. Also, I saw no data from arterial blood gases or CVP that was, or was not, utilized to guide therapy. Non-invasive means of guiding fluid therapy, such as urine output and respiratory variation in the plethysmograph, can be just as useful.

Experience in the bariatric OR is driving research in obesity. In the absence of evidence-based practice, expert opinion based clinical practices tend to be adapted. I am glad to see both of these are continuing to grow in the field of anesthesia in morbid obesity.

Ashish C Sinha, Basavana G Goudra¹

Drexel University College of Medicine, ¹Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

Address for correspondence: Prof. Ashish C. Sinha, Professor and Vice Chair (Research), Director of Clinical Research

Anesthesiology and Perioperative Medicine, Drexel University College of Medicine, Hahnemann University Hospital, 245 N. 15th Street, MS 310, Philadelphia, PA 19102, USA.
E-mail: Ashish.Sinha@DrexelMed.edu

References

1. Juvin P, Vadam C, Malek L, Dupont H, Marmuse JP, Desmonts JM. Postoperative recovery after desflurane, propofol, or isoflurane anesthesia among morbidly obese patients: A prospective, randomized study. *Anesth Analg* 2000;91:714-9.
2. Kaur A, Jain AK, Sehgal R, Sood J. Hemodynamics and early recovery characteristics of desflurane versus sevoflurane in bariatric surgery. *J Anaesthesiol Clin Pharmacol* 2013;29:36-40

How to cite this article: Sinha AC, Goudra BG. Bigger and bigger challenges: Evidence-based or expert-opinion based practice?. *J Anaesthesiol Clin Pharmacol* 2013;29:4-5.
Source of Support: Nil, **Conflict of Interest:** None declared.

Announcement

“QUICK RESPONSE CODE” LINK FOR FULL TEXT ARTICLES

The journal issue has a unique new feature for reaching to the journal’s website without typing a single letter. Each article on its first page has a “Quick Response Code”. Using any mobile or other hand-held device with camera and GPRS/other internet source, one can reach to the full text of that particular article on the journal’s website. Start a QR-code reading software (see list of free applications from <http://tinyurl.com/yzlh2tc>) and point the camera to the QR-code printed in the journal. It will automatically take you to the HTML full text of that article. One can also use a desktop or laptop with web camera for similar functionality. See <http://tinyurl.com/2bw7fn3> or <http://tinyurl.com/3ysr3me> for the free applications.