

Viewpoints

The Difficult Airway in Office-Based Anesthesia

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Sir:

The skills required to anticipate and manage a difficult airway are very important skills that the anesthesia provider must possess. However, it is axiomatic that the night before surgery, the patient *was* breathing *room air* unassisted by any devices. (Note that this discussion excludes the sleep apnea patient who requires a continuous positive airway pressure device.) It is therefore anesthesia providers who may be *creating* the difficult airway by the choice of agents and style of administering them.

Managing patients who present for elective office-based surgery is not the same clinical problem as managing those charging down the hallway from the emergency room with ruptured aneurysms or managing those in labor and delivery with prolapsed umbilical cords. Despite the obvious differences between elective office-based patients and life-threatening hospital-based emergency patients, many anesthesia providers continue to routinely induce their elective office-based patients' anesthesia with a bolus of propofol (1.5 to 2.5 mg/kg).

The size of the propofol bolus is customarily determined by the patient's weight, with consideration given to age, premedication, general physical condition, prescription medications taken, alcohol consumption, recreational drugs taken admitted to (or not), and other subtle factors that come under the heading of clinical judgment or "best guess."

Patients are often premedicated with midazolam and fentanyl before propofol induction. Avoiding the routine administration of preoperative opioids to patients who are not in pain will better preserve their drive to breathe spontaneously. Incrementally titrating propofol to a bispectral index monitoring value less than 75 and maintaining propofol at a bispectral index monitoring value of 60 to 75 has provided adequate amnesia in patients receiving propofol ketamine anesthesia between December 26, 1997, and March 26, 2002, eliminating the rationale for routine midazolam administration.¹

A reasonable midazolam substitute has been oral clonidine,² provided that a 2.5- to 5.0-mg/kg concentration can be achieved.³ For patients weighing between 95 and 175 pounds, 0.2 mg (or 200 µg) of oral clonidine 30 to 60 minutes preoperatively has been shown to be effective in reducing propofol

requirements for both induction and maintenance with bispectral index monitoring.⁴

Wide clinical requirements for propofol are commonly recognized. Even in experienced hands, the best guess can often be in error. The explanation may lie in the 19-fold interindividual difference in how the drug is metabolized.⁵ Induction doses based on body weight may overshoot many patients' individual hypnotic requirement.

Propofol in excess of requirement may produce a loss of airway muscle tone with transient apnea. Bolus propofol inductions may take a patient who was formerly able to maintain their own airway and breathe satisfactorily on room air and create a patient dependent on the anesthesia provider for ventilation and oxygenation. However, if one creates a “cannot ventilate, cannot oxygenate” situation secondary to a bolus propofol induction in the office setting, dire outcomes may result. Unlike a hospital or an ambulatory surgical center wherein alternative airway management services may be available, the office may have only a tracheostomy or a 911 call to offer. A tracheostomy scar is a decidedly unacceptable cosmetic outcome, with substantial medicolegal exposure.

One suggestion could be to avoid creating a difficult airway in the first place with a bispectral index monitored *incremental* propofol induction. With clonidine premedication and trending electromyography as a secondary trace to bispectral index monitoring, an incremental propofol induction rarely consumes more than 2 minutes. One clinical pathway for incremental propofol induction has been published⁶ and is available gratis at www.cosmeticsurgeryanesthesia.com.

Despite the advantages of avoiding creating a difficult airway, some anesthesia providers still feel “the more drugs they give, the better they feel.” Perhaps Pogo was right, “We have met the enemy and he is us.”

DISCLOSURE

The author is not employed by Aspect Medical Systems, Inc., makers of the BIS monitor, is not a stockholder, and is not a paid consultant.

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