Letters to the Editor

When is an Airway Not an Airway?

To the Editor:

We read with interest the randomized clinical trial by Joo et al. (1) of difficult airway management, in which they compared the merits of inserting the intubating laryngeal mask airway (ILMA) under general anesthesia with awake fiberoptic intubation (AFOI).

Joo et al. (1) rightly point out that the ILMA can be used as the sole airway without tracheal intubation. Because a clear airway had been already obtained in patients in the ILMA group, it would be interesting to know why they required tracheal intubation. Having excluded patients at risk for aspiration of gastric contents, difficult ventilation, and supraglottic abnormalities, what indications, apart from the procedures, existed for tracheal intubation?

The intubating laryngeal mask airways (LMA-Classic (2,3), ILMA or Fastrach (4), and the LMA-ProSeal (5)) all permit positive pressure ventilation or spontaneous ventilation with minimal morbidity provided the appropriate size is used and the device is correctly placed. Even abdominal procedures, for which tracheal intubation was formerly considered mandatory, can be managed with supraglottic devices. The role of supraglottic airway devices for “nonconventional uses” is now acknowledged by reference texts within the specialty (6).

Joo et al.’s study (1) challenges the “gold standard” of AFOI in a selected group of patients with previous or predicted difficult laryngoscopy. Perhaps the next “gold standard” to be challenged is whether every patient with a difficult airway requires endotracheal intubation. The advent of supraglottic airways, and the unique attributes of each, justifies subjecting airway strategies to randomized clinical trials (7). Thus procedures like AFOI, which require expensive equipment and consume valuable operating theater time and are “adamantly refused” by some patients, may have their indications better defined.

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References

In Response:

Drs. Beriault and Maltby raise a valid point that not all patients with difficult airways require tracheal intubation, especially with the advent of new airway devices that allow for better ventilation with minimal risk of aspiration of gastric contents. Clearly, for certain procedures, airway management without tracheal intubation is not only acceptable but also indicated. For this reason, we tested ventilation with the intubating laryngeal mask airway to determine its efficacy as a temporary ventilation device in patients with difficult airways. However, tracheal intubation is often required for surgical reasons. It was for this reason that tracheal intubation via the intubating laryngeal mask was performed on all patients.

The main purpose of our study (1) was to study the ILMA as a ventilation device and as an aid to tracheal intubation in patients with difficult airways. It was beyond the scope of the study to determine whether patients with difficult airways required tracheal intubation at all. I strongly agree that this is an area that needs further investigation. I would like to applaud Drs. Beriault and Maltby for their efforts in challenging the status quo.

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Reduction of Pain on Injection of Propofol: A Comparison of Fentanyl with Remifentanil

To the Editor:

We read with interest the article by Picard and Tramèr (1). We agree that, as mentioned in the article, a disadvantage of propofol is pain on injection. Thus, we compared the effect of fentanyl and remifentanil on pain during injection of propofol.

In this trial, the study was approved by the local Medical Ethics Committee, and informed consent was obtained from the patients scheduled for surgery. Seventy-five unpremedicated patients were randomly allocated to one of three groups (n = 25 respectively). There were no intergroup differences in age, weight, or gender.

Group P, normal saline before propofol 2 mg/kg, group F, fentanyl 1 μg/kg before propofol, group R, remifentanil 1 μg/kg before propofol. A 20-gauge IV cannula was inserted on the dorsum of the hand. Propofol 10 mL (100 mg) was injected over 30 s. Expression of pain by strong vocal response on response accompanied by facial grimacing or withdrawal of arm was scored as severe pain. Verbal expression of pain without grimacing or withdrawal of arm was scored as moderate pain. If severe or moderate pain was not observed within 30 s, the patients were asked whether they had any discomfort in the arms; if they answered “yes,” this was scored as mild pain; if they answered “no,” this was scored as no pain (2).

The assessments of pain on injection of propofol were performed by a blinded observer. Kruskal-Wallis nonparametric analysis of variance test was used.

Incidence of pain scores in each group is shown Table 1. There

<table>
<thead>
<tr>
<th>Pain scores</th>
<th>Group P (n = 25)</th>
<th>Group F (n = 25)</th>
<th>Group R (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>9 (36)</td>
<td>12 (48)</td>
<td>17 (68)</td>
</tr>
<tr>
<td>Mild</td>
<td>5 (20)</td>
<td>6 (24)</td>
<td>3 (12)</td>
</tr>
<tr>
<td>Moderate</td>
<td>7 (28)</td>
<td>4 (16)</td>
<td>4 (16)</td>
</tr>
<tr>
<td>Severe</td>
<td>4 (16)</td>
<td>3 (12)</td>
<td>1 (4)</td>
</tr>
</tbody>
</table>

Values are number (%).
were no significant differences among three groups in pain score (Kruskal-Wallis = 5.37 and P > 0.05).

In conclusion, our observations suggest that neither fentanyl (1 μg/kg) nor remifentanil (1 μg/kg) pretreatment reduces the pain on injection of propofol.

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References

Is 0.375% Bupivacaine Safe in Caudal Anesthesia in Neonates and Young Infants?
To the Editor:

Cucchiaro et al. (1) recently reported single-dose caudal anesthesia in high-risk infants using 0.375% bupivacaine. We are concerned about their use of a relatively large dose of bupivacaine (3.75 mg/kg) in their caudal solutions, which exceeds previously published guidelines (2.3) of 2.5 mg/kg in infants.

The authors justify this dose by citing studies demonstrating serum levels below the reported toxic level of 2 μg/mL using comparable doses (4,5). These studies were performed in children not in neonates or young infants. Berde (3) has stated that convulsions can occur with serum concentrations as low as 2 μg/mL. Mazoit et al. (6) reported that neonates and young infants have a significantly higher free fraction of caudally injected bupivacaine. This free fraction correlated inversely with low levels of α-1 acid glycoprotein.

None of these patients were traumatically intubated or mechanically ventilated. No episodes of hypoxemia were reported, but no mention was made of ETCO2. The prematurity and medical conditions of these patients, coupled with surgical retraction, would make them prone to intraoperative hypercarbia, which could precipitate local excitability of the adjacent segments that are not blocked could cause hypercarbia, which could precipitate local excitability of the adjacent segments that are not blocked could cause hypercarbia.

On the basis of these concerns, we caution readers to be judicious in their doses of bupivacaine for caudal blocks, especially in neonates.

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References

In Response:

We are in agreement with Dr. Uejima’s concerns regarding bupivacaine toxicity. However, the studies cited in his letter all report episodes of cardiac and neurologic toxicity after several hours of a continuous infusion of large doses of bupivacaine, and none of them addressed the problem of a single-dose administration.

Several studies have demonstrated, as cited in our case report, that bolus doses of bupivacaine at 3–3.75 mg/kg will lead to safe plasma levels of bupivacaine (<2 μg/mL) (1–2). These data were obtained in children as young as 3 mo old (1). Unfortunately, there are no data available on bupivacaine plasma levels after single-dose caudal administration in neonates. Moreover, whether the peak toxic concentration is different in neonates, children, and/or adults is unknown. Several authors have demonstrated that neonates have a low level of α-1 acid glycoprotein (3). However, the same studies have shown that the volume distribution of bupivacaine in neonates is much larger compared with older children (3).

Our patients were not mechanically ventilated; therefore, we were unable to accurately measure the levels of expired CO2. However, given the neonatal respiratory physiology, the lack of hypoxia during the surgical procedure strongly suggests that ventilation was within normal ranges in these patients.

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References

Searching the Preferred Anesthetic Technique During One-Lung-Ventilation
To the Editor:

We appreciate that there is someone interested in studying the potential intraoperative effects of an anesthetic technique that, when continued in the postoperative period, reduces morbidity and mortality (1).

However, we question the conclusion of the study of Von Dossow et al. (2) that the preferred technique for thoracic surgery is a thoracic epidural anesthesia (TEA) combined with isoflurane. We are concerned with an insufficient anesthetic depth because they used an end-tidal concentration of isoflurane of 0.33–0.5% (equivalent to ≤0.5 MAC). Because the inhibition of hypoxic pulmonary vasoconstriction (HPV) produced by isoflurane is dose-dependent, an adequate anesthetic concentration could decrease arterial oxygenation and increase the intrapulmonary shunt of the TEA group.

In our experience and in the literature, it is unusual to find a Pao2<300 mm Hg during one-lung ventilation (OLV). The nerve supply of the pulmonary vasculature corresponds to T2–4 level of the sympathetic nervous system. A sympathetic block produces pulmonary vasodilatation and blocks activated pulmonary vasoconstriction. Von Dossow et al. (2) used a dose of bupivacaine of 6–8 mL injected at T6–7 or T7–8, so they probably did not achieve a block of T2–4. Hyperexcitability of the adjacent segments that are not blocked could cause vasoconstriction (3). This situation could explain the high Pao2 observed in these patients. In our study (4), we used larger doses of epidural bupivacaine, so T2 was blocked. That is probably why we had a lower Pao2 during OLV in the TEA group.

We would like to know the values of Pao2 and airway pressure, as they can also affect HPV during OLV. With regard to the time of tracheal extubation and its possible effect on postoperative morbidity, we would like to know whether the anesthesiologist who extubated the trachea knew the purpose of the study and the group in which each patient was included. This, in our opinion, could bias the study. On the other hand, it is not likely that the difference in time to extubation (13 min versus 45 min), although statistically significant, could have a clinically relevant effect (i.e., fewer pneumonias or shorter stays in the hospital).

It would be interesting to continue this investigation combining TEA with the doses used by Von Dossow et al. (2) plus more intense general anesthesia.

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References
References

In Response:
We thank Drs. Garutti and Olmedilla for the discussion about the preferred anesthetic technique for lung resections during one-lung ventilation.

Whether thoracic epidural anesthesia in combination with general anesthesia reduces the anesthetic dosage remains to be determined. However, reduction of anesthetic doses for older patients is considered without signs of awareness (1).

Carlsson et al. (2) studied the effect of isoflurane anesthesia with different concentrations of end-tidal 1% and 1.5% on the hypoxia-induced pulmonary vasoconstriction in eight patients before elective surgery. There were no changes in pulmonary vascular resistance or in any other circulatory variables; arterial blood gases remained essentially unaltered. In addition, a decrease in cardiac output and mixed venous oxygen partial pressure is associated with an increased shunt fraction of hypoxic pulmonary vasoconstriction (3). Kellow et al. (4) showed an increased shunt fraction but no change in cardiac output with isoflurane anesthesia, whereas propofol anesthesia caused a decrease of cardiac output which was associated with a lower shunt fraction. Therefore, changes in cardiac output might be the reason for these controversial results in many clinical studies.

We do not agree with Dr. Garutti's opinion that hypoxic pulmonary vasoconstriction is influenced by sympathetic nerve activity. Neither sympathetic nerve activity (5) nor chemical sympathectomy (6) influenced the hypoxic pulmonary vasoconstriction response (7, 8). Thoracic epidural anesthesia had no influence on the primary hypoxic-induced increase in vascular tone (3).

According to clinical routine (8) the individual dose for every patient was titrated depending on the initial required dose, age (0.1 mL/age), and size, i.e., 30–40 mg epidural bupivacaine were sufficient to spread epidural anesthesia up to the Th1–Th4 segments. In addition, for older patients (>50 yr) and those with coronary artery disease it is recommended to reduce the dosage for 30%–50% with respect to extensive hypoxia (8). In comparison to the study of Garutti et al. (9) no differences were found with respect to the age (60 [43–75]/60 ± 11) and the thoracic placement of the epidural catheter (Th7–7/7–8).

Arterial carbon dioxide partial pressure values were kept constant between 35 mm Hg and 45 mm Hg throughout the study period and differences between groups were not found. In addition, the extubation time was not the primary aim of this study because of methodological reasons: as stable conditions were required until the patient was returned in the supine position, propofol infusion as well as the application of isoflurane were only stopped afterward. Therefore, it cannot be ruled out that this might have biased the longer extubation time in the TIVA group.

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References

Propofol Formulation and Pain on Injection
To the Editor:
In the recently published brief report by Rau et al. (1), the investigators described the effect of a “new” emulsion formulation of propofol on the severity of pain on IV injection when compared to Diprivan® (AstraZeneca, Wilmington, DE). Unfortunately, these authors failed to acknowledge a report by Shao et al. (2) which demonstrated that generic formulation of propofol containing a different preservative (sodium bisulfite) (Baxter, Chicago, IL) was also associated with less severe pain on injection than the EDTA-containing Diprivan formulation. It is important to perform a careful review of the published literature on a given topic to properly acknowledge the relevant works of others in the field.

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References

Hiccupping and Regurgitation via the Drain Tube of the ProSeal Laryngeal Mask
To the Editor:
A healthy 40-year-old female (165 cm, 61 kg) presented for transanal excision of a rectal polyp under general anesthesia. The patient had fasted since midnight. She was induced with propofol 150 mg IV and mask ventilated with oxygen for 20 s. A size 4 ProSeal™ laryngeal mask airway (PLMA) was inserted using the index finger method and the cuff was inflated to 60 cm H2O. Mask placement was considered satisfactory based on normal chest rise and fall, feel of the anesthesia bag, and the capnograph. The maximum seal pressure exceeded 30 cm H2O positive pressure ventilation. Shortly thereafter the patient began hiccuping; this persisted despite additional propofol, fentanyl, and an increased inspired sevoflurane concentration. A small jet of gastric juice was then ejected from the drain tube (DT) of the PLMA in association with the hiccupping. After expulsion of the gastric juice, a fluid level was observed in the DT. Ventilation remained unimpaired and there were no indications of airway contamination. Rocuronium 50 mg IV was administered and the anesthetic converted to positive pressure ventilation. A 14F orogastric tube was passed via the DT and over 200 mL of gastric fluid was suctioned. Anesthetic maintenance and emergence proceeded routinely and examination of the PLMA at the end of the case did not reveal any evidence of contamination within the bowl. The patient had an unremarkable recovery.

Hiccupping consists of a spasmodic contraction of the diaphragm and accessory muscles followed by active closure of the glottis (1). It is a powerful reflex that can result in markedly negative intrathoracic pressures. Hiccupping causes increased peritoneal (gastric) pressures and a decrease in lower esophageal sphincter (LES) tone.
creases transdermal drug absorption (2, 5). Of particular note, one report suggested that transdermal nitroglycerin absorption was accelerated by a warm air convection heating blanket resulting in intraoperative hypotension (2).

There are a variety of medications that can be administered transdermally (e.g., nitroglycerin, fentanyl, clonidine, scopolamine, nicotine, estradiol, testosterone, salicylic acid). Presumably heat can influence either drug delivery to the skin or transport through it. The potential for general and regional anesthetic techniques to increase cutaneous blood flow can potentially increase the transdermal absorption of medications, even without the application of external heat. Depending on the medication, the effects of an augmented absorption rate may either be evident during or masked by the anesthetic. Conversely, a variety of circumstances can cause cutaneous blood flow to decrease intraoperatively, which could potentially decrease the drug delivery rate to the patient.

As Dr. Frolich et al. point out, there are no specific recommendations or precautions provided for the intraoperative use of fentanyl patches. Thus, until there is data for each medication and delivery system to support or refute the hypothesis that application of a warm air convection heating blanket, especially if set at a high temperature, may accelerate the absorption of any transdermal medication thereby effectively increasing the dose rate, it may be prudent to avoid placing a warming blanket directly over transdermal medications. In addition to Dr. Frolich et al.’s (1) recommendation for close perioperative monitoring, to prevent such a problem, one can undertake the following measures:

1) Discontinue the transdermal medications and administer the medications via an alternative route. The transdermal medications should be removed sufficiently in advance to prevent accelerated absorption from medication remaining within a skin depot.

2) Apply the transdermal medications to a location that will not be warmed by the heating blanket.

3) Use a model of warming blanket that warms parts of the body other than where the transdermal medication has already been applied.

4) If one cannot avoid placing a warming blanket over the transdermal medication, insulate the transdermal medications from the warming blanket.

References


(1). LES function can be overcome by the transient peritoneal-plesural gradient created during a hiccup. As such, hiccupping favors reflux of gastric contents into the esophagus and, in anesthetized patients, is a risk factor for regurgitation and aspiration (2,3). According to Vanner (3), about 40% of patients who hiccup after induction of anesthesia develop detectable gastroesophageal reflux. In the majority of these cases, the upper esophageal sphincter (UES) prevented further regurgitation into the pharynx (3).

Hiccupping resembles breathing against an obstructed airway. Breathing against an obstructed airway, in turn, is known to be a risk factor for regurgitation and aspiration as summarized by Ovassapian: “In order for gastric regurgitation to occur, several conditions must usually be present. There needs to be fluid in the stomach, the cardiosophageal junction must prove to be incompetent, the pressure within the stomach exceeds that in the esophagus, and the cricopharyngeus muscle allows material to pass into the oropharynx” (4–6). In our case, we believe that repeated hiccupping caused gastric contents to accumulate in the esophagus. Eventually a jet of gastric juice was expelled from the esophagus through the DT. The DT provided a low-resistance channel through which fluid in the esophagus was vented to the outside. The DT may have played a role in partially stenting open the UES, but this remains unknown.

In summary, this case highlights the risk of hiccupping in anesthetized patients. More generally it illustrates one process, gastroesophageal reflux, that can occur with negative intrathoracic pressures (1–6). The PLMA was designed with a DT to channel regurgitated esophageal contents that reach the UES to the outside. The PLMA was also designed with a large bulky cuff near the tip to provide a measure of isolation between the respiratory and gastrointestinal tracts. Any measure of airway protection afforded by the PLMA is dependent on the quality of the cuff seal with the hypopharynx and force of regurgitation (7). In this case, the PLMA seems to have worked in the manner for which it was designed. There was no clinical evidence of airway contamination during this case of regurgitation associated with hiccupping.

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References


Warming Blankets Should Not Be Placed Over Transdermal Medications

To the Editor:

I read with great interest the article of Bernard et al. (1) concerning the relationship between preoperatively assessed diastolic dysfunction and adverse outcome after cardiopulmonary bypass, with increased frequencies of inotropic support and delayed weaning. Although I agree completely with the authors’ conclusions stressing the routine inclusion of diastolic function parameters in each transesophageal echocardiography (TEE) investigation, I have some concerns about the interpretation of Doppler patterns in general with respect to diagnosis of diastolic dysfunction and the initial assessment of transmirtal flow pattern, especially before the surgical procedure. It is well known that the early transmirtal flow wave velocity (E) is strongly dependent on loading conditions. How was
Table 1. Descriptors of Diastolic Dysfunction in Relation to Respective Physiology

<table>
<thead>
<tr>
<th></th>
<th>E/A</th>
<th>Dect E (ins)</th>
<th>S/D</th>
<th>Ar (m/s)</th>
<th>Em (m/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&gt;1</td>
<td>&lt;220</td>
<td>≥1</td>
<td>&lt;0.35</td>
<td>&gt;0.08</td>
</tr>
<tr>
<td>Delayed relaxation</td>
<td>&gt;1</td>
<td>≥200</td>
<td>≥1</td>
<td>&lt;0.35</td>
<td>&lt;0.08</td>
</tr>
<tr>
<td>Pseudonormal filling</td>
<td>1–2</td>
<td>150–200</td>
<td>&lt;1</td>
<td>≥0.35</td>
<td>≥0.08</td>
</tr>
<tr>
<td>Restrictive filling</td>
<td>&gt;2</td>
<td>&lt;150</td>
<td>&lt;1</td>
<td>&lt;0.35</td>
<td>&lt;0.08</td>
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</table>

Ar = reverse flow velocity at the level of a pulmonary vein, owing the atrial contraction; DT = deceleration time; E/A = ratio of early to late filling wave velocity; Em = early flow velocity obtained with spectral Doppler tissue imaging; IVRT = isovolumetric relaxation time; S/D = ratio of systolic to Doppler flow velocity in a pulmonary vein.

the influence of potent vasodilating anesthetic drugs excluded? Moreover, the indices of the pulmonary venous Doppler patterns are both sensitive to loading conditions and, in addition, depend also on compliance of both left atrial and left ventricular and elevated left ventricular filling pressures. What happens when totally different values of parameters from the left and right pulmonary venous patterns are found in left and right pulmonary veins? Hence, classifying patients in a subset “impaired relaxation” is at least difficult in this respect, without comparison with preoperative transmural flow patterns of that same patient, and this is even more true when acute hemodynamic changes occur (e.g., during an operation, in the intensive care unit). Particularly in patients with a left ventricular fractional area contraction above 50%, it is clear that a E/A < 1 is seldom linked with impaired relaxation and should be interpreted primarily as a low filling state (often aggravated by “overmedication” with diuretics). In addition, important alterations in transmural filling patterns may significantly within the same patient. A dynamic test, as recently proposed by De Hert et al. (2), is a more appealing technique to differentiate within and between patients with diastolic dysfunction. This technique, however, is not always appropriate and is sometimes dangerous. Several authors have therefore proposed some supplementary assessments to determine more accurately the presence of diastolic dysfunction.

TEE has the power to simply analyze contractility (3), preload and afterload (4) in an independent manner. In addition, a preload independent, noninvasive index of relaxation has been proposed. Tissue Doppler velocities may be shown either by color M-mode (5, 6), tissue Doppler imaging (TDI) (7,8) or two-dimensional mode. Whereas Doppler ultrasound has been traditionally utilized to measure flow velocities of red blood cells, TDI allows measurement of velocities of myocardial tissue (typically low velocities in conjunction with high amplitude) at certain points (9). TDI, which has a high reproducibility rate (10), has several advantages. First, determination of isovolumic relaxation and contraction time is much simpler to assess. Second, during tachycardia TDI remains useful with respect to assessment of diastolic function (11) in contrast to mitral inflow Doppler (because of fusion of the different flow waves). Finally, the relationship between mitral inflow and TDI can be used to estimate pulmonary capillary wedge pressure (12). Utilizing TDI in conjunction with routine Doppler parameters may hold a promising future in the noninvasive hemodynamic management of critically ill patients. Recognition of early filling wave with TDI in conjunction with the transmitral E may lead to a more easily interpretable assessment of diastolic function (Table 1) and be much more reliable, particularly when evaluating patients with concomitant valvular disease.

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References
been formally validated at the time of the study, so we could not mention it in the methodology.

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References

Propofol-Induced Bronchoconstriction: Asthma or Allergy?

To the Editor:

I read with interest the case reports by Nishiyama and Hanaoka (1) on propofol-induced bronchoconstriction. Propofol is not only safe for asthmatic patients, but also may be the drug of choice for treatment of asthma without active symptoms (2, 3). Propofol decreases respiratory resistance and may prevent bronchospasm that can result from airway instrumentation. However, propofol is more likely than other drugs used for induction of anesthesia to cause an allergic reaction, and 1.2% of cases of perioperative anaphylactic shock in France were attributable to propofol (4–7). The largest report of allergic reactions to propofol contains a total of 14 patients (6). Allergy to propofol was more likely in patients with a history of atopy (4/14) and in those with a history of a drug allergy (6/14). The authors of this report caution against the use of propofol in patients with several drug allergies or history of a drug allergy (6/14). The authors of this report caution against the use of propofol in patients with several drug allergies or history of a drug allergy (6/14). The authors of this report caution against the use of propofol in patients with several drug allergies or history of a drug allergy (6/14).

Propofol (2–6 disopropylphenol) is an alkyl phenol in a lipid vehicle (soybean oil, egg lecithin, and glycerol) (5). Allergic reactions to propofol on first exposure are usually because of the isopropyl groups that may act as epitopes and that are present in various medications and cosmetics (5–6). Allergic reactions to propofol upon re-exposure are usually because of the phenol molecule (7). Although I agree with the authors of this case report that the flush in case 2 suggests histamine release, it is impossible to conclude that this was indeed an allergic reaction. Most drugs used to induce anesthesia, including propofol, can cause a nonimmunologic, nonspecific histamine release, and this is more likely in patients with atopy (8). The measurement of a serum tryptase, skin tests, specific immunoglobulin E radioimmunoassay, or a leukocyte histamine release test may aid in the diagnosis, and should be done with propofol, fentanyl, and intralipid. Although exceedingly rare, allergic reactions to fentanyl and intralipid have been described (5).

The diagnosis of the first patient is even more confusing, as there were no signs of histamine release. Although bronchoconstriction could be the only presenting sign of anaphylaxis, an asthmatic attack is also in the differential diagnosis. This patient, known to have allergic rhinitis, may also have asthma of allergic etiology. As many as 50% of cases of asthma in adults are due to allergy. Therefore, this patient is more likely than a nonasthmatic or nonatopic patient to experience bronchospasm with airway instrumentation. Furthermore, as in the second patient, no tests were conducted to aid in the diagnosis of an allergic reaction or identification of a specific allergen.

If the patient has asthma, an attempt should probably be made to determine if it is allergic asthma. Propofol remains my drug of choice for induction of anesthesia in nonastomatic asthmatic patients. If a patient has allergic asthma, then a history of the severity of the condition and of other allergies should be obtained. A risk-benefit analysis, including risk of postoperative nausea and vomiting, risk of bronchoconstriction, and risk of recovery from anesthesia should be conducted. If propofol is chosen as the anesthetic induction agent in a patient with atopy or multiple drug allergies, other histamine-releasing drugs should be avoided during the anesthetic and the anesthesiologist should be prepared to deal with an allergic reaction.

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References