

## Correspondence

### *Herbals - beware bleeding*

To the Editor:

We wish to report unusual bleeding after use of Echinacea.

A healthy 60-yr-old woman with controlled hypothyroidism had lumpectomy of the breast under anesthesia with propofol, fentanyl, O<sub>2</sub>, N<sub>2</sub>O, isoflurane with LMA. During surgery, vital signs were normal but the surgeon remarked that the patient was bleeding more than usual. The common intraoperative causes of bleeding were ruled out. Surgery was completed in an hour with an estimated blood loss of 500 ml. Coagulation studies in PACU, were normal except for slightly elevated thrombin time. The patient was observed overnight and discharged the following day.

Preoperative questioning revealed that she was taking Echinacea for a recent cold for three weeks but no anti-platelet drugs. Echinacea is used for treating colds and boosting immunity. Chronic use causes hepatic dysfunction and it is used with caution with hepatotoxic and anti-platelet agents. There is no standardization of the quality or quantity of active ingredients and it is often adulterated with other herbals namely feverfew, a drug known to inhibit platelet function.<sup>1</sup>

We suspect that our patient's bleeding was due to chronic Echinacea use. There are no guidelines of discontinuation of herbals prior to surgery. The ASA has issued a warning and advised that patients should disclose this information. We would like to hear from the Anesthesia community about their experience. We advise that anesthesiologists ask about herbal use in preoperative questioning.

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#### References

- 1 O'Hara MA, Kiefer D, Farrell K, Kemper K. A review of 12 commonly used medicinal herbs. *Arch Fam Med* 1998; 7: 523-36.
- 2 Leak JA. Herbal medicines: what do we need to know? *ASA Newsletter* 2000; 64: 6-11.
- 3 Leak JA. Herbal medicine: is it an alternative or an unknown? A brief review of popular herbals used by patients in a pain and symptom management practice setting. *Curr Rev Pain* 1999; 3: 236.

### *Unusual cause of volotrauma*

To the Editor:

Datex-Engstrom ADU anesthesia machines (Datex-Engstrom, Bromma, Sweden) offer three automated ventilation options: Volume Control, Synchronized Intermittent Mandatory Ventilation and Pressure Control (PCV). With PCV mode, the operator sets the amount of PC and rate. The delivered tidal volume ( $V_T$ ) depends on the compliance of the patient's lungs and thorax.

Several months ago, the first case was a laparotomy in an ICU patient with ARDS. His lungs were ventilated in the operating room using PCV 25cmH<sub>2</sub>O, PEEP 5, I:E ratio 1:2, rate 12, FiO<sub>2</sub> 0.50. The  $V_T$  was 400-500 ml. The second case was a laparoscopic cholecystectomy in a 60 kg female. Induction and tracheal intubation were uneventful and her lungs were ventilated. Two minutes later, the anesthesiologist noted large excursions of the ventilator bellows. Spirometer was registering  $V_T$  of 1400 ml. The PCV setting of the previous case (25cmH<sub>2</sub>O) was inadvertently applied to the present patient resulting in excessive  $V_T$ . The ventilator was appropriately reset and she did not suffer any sequelae. Significantly, neither the ADU nor the interfaced Datex AS/3 monitor alarmed. The ADU has high and low airway pressure alarms while the AS/3 has high peak pressure, PEEP and minute ventilation (default 30 L·min<sup>-1</sup>) alarms.<sup>1</sup> Neither device has alarms for excessively high or low  $V_T$ .

This case illustrates the potential dangers of volotrauma using a ventilator mode unfamiliar to the anesthesiologist. It has been shown that excessive  $V_T$  can be more detrimental than high airway pressure in causing alveolar damage and leaky capillaries.<sup>2</sup> With newer, sophisticated anesthesia ventilators, anesthesiologists must be highly vigilant and be fully familiar with its features. When PCV is used, high and low  $V_T$  alarms may be useful safety features.

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#### References

- 1 Datex-Engstrom AS/3 Anaesthesia Delivery Unit User's reference manual, March 1998. 6-2.

- 2 Dreyfuss D, Soler P, Basset G, et al. High inflation pressure pulmonary edema. *Am Rev Respir Dis* 1988; 137: 1159–64.

### REPLY:

*Thank you for the opportunity to respond. On review of the reported events, we noted that the ventilator functioned as designed, in response to the respiration values set on the ventilator. The ventilator was operating in the Pressure Control Ventilation mode, with an Inspired pressure setting of 25 cm H<sub>2</sub>O.*

*The design of the ADU takes into account that for automatic ventilation, especially in Pressure Mode, higher than intended airway pressure would be the most likely potential cause of damage to the lung. The amount of tidal volume delivered is a function of the set target pressure and the compliance of the lungs. The compliance factor for the patient discussed in the article indicates a healthy lung.*

*Incorporation of alarms is a balance between promoting safety, and not being obtrusive. We thank Dr. Wong and Mr. Shirzad for sharing an experience that reiterates the importance of that balance. However, we find the comment made on “tidal volume alarms not being incorporated” was not relevant, because the ADU incorporates airway pressure alarms, disconnect alarm, and low Minute Volume alarm functions as appropriate alarms for this mode of ventilation, and in accordance with the relevant Anesthesia System standards (ISO 8835-1, IEC 601-2-13, ASTM 1850, EN 740).*

*We agree with the authors that using a “ventilator mode unfamiliar to the anesthesiologist” is potentially dangerous, as would be employing any sophisticated medical device without adequate understanding of the device, with its potential advantages and disadvantages.*

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Datex-Ohmeda

### *Thin end of the wedge*

To the Editor,

The thin edge of the wedge arrives. Dr. MacManus is to be congratulated on his balanced and thoughtful editorial; “*Trained nurses can provide safe and effective sedation of MRI in pediatric patients*”.<sup>1</sup> The demand for anesthesia services outstrips supply. The central question for those of us in the Canadian anesthesia community is whether alternate anesthesia providers with remote supervision by physician anesthesiologists is a solution. I do not believe that this is acceptable. There

is a lack of discussion regarding quality and informed consent in the sedationist proposal. Most Canadian parents believe that when their children are “deeply sedated” (unconscious) that they will be attended by physically present, appropriately trained, physicians. Are parents offered the choice between physician and non-physician providers? Are they informed that our definition of success for non-physician providers is between a 1 in 10 to 1 in 20 chance that the procedure will need to be rescheduled because of unsatisfactory sedation?

Egelhoff<sup>2</sup> has demonstrated that a program of sedation monitored by radiologists is as safe and effective as the one supported by Dr. MacManus. The problem with wedges is the inexorable squeezing that occurs over time. How many sedations can be supervised at a time? What else could the supervising anesthesiologist do? Is a procedure painful if local anesthesia is injected? We need a thorough National Debate about any sedationist proposal before we abandon the CAS guidelines. “*The only indispensable monitor is the presence at all times of an appropriately trained and experienced physician*”.

Michael Sullivan MD FRCPC  
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### References

- 1 MacManus B. Trained nurses can provide safe and effective sedation of MRI in pediatric patients (Editorial). *Can J Anesth* 2000; 47: 197–200.
- 2 Egelhoff JC, Ball WS Jr, Koch BL, Parks TD. Safety and efficacy of sedation in children using a structured sedation program. *AJR Am J Roentgenol* 1997; 168: 1259–62.

### *An unusual cause of difficult spinal anesthesia*

To the Editor:

Spinal anesthesia was planned for elective total hip arthroplasty in a healthy 59-yr-old man. A 25 gauge Quinke needle was passed into the subarachnoid space, as evidenced by the appearance of clear fluid in the needle hub. The solution to be injected had been prepared using a single-use spinal anesthesia tray (Baxter Health Care Corporation, Deerfield, Illinois, USA). Three ml local anesthetic and 0.3 ml preservative free opioid had been drawn into a glass syringe using a filter needle. The solution was injected without difficulty until the final 0.2 ml of injectate when firm resistance to further injection was encountered. The syringe was detached from the hub of the needle