

tionally renowned surely should be in the Canadian Medical Hall of Fame."

What will it take to award Dr. Griffith a deserved place in the Canadian Medical Hall of Fame?

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Visible bubbles in the internal jugular vein during carotid endarterectomy

To the Editor:

We observed bubbles in the internal jugular vein (IJV) of a patient during right carotid endarterectomy under general anesthesia (induction: 150 µg fentanyl, 200 mg thiopental, 50 mg rocuronium; maintenance: O₂ 40%/N₂O 60%, isoflurane 0.5-1.0%). Catheters were inserted into the radial artery (#20G) and vein (#18G) in the left arm. The patient was positioned supine, head elevated 30° and turned to the left. During surgery, a coalescence of small bubbles was observed throughout the exposed portion of the IJV. After documentation with Doppler they were aspirated (#25G needle). The patient remained hemodynamically stable without change in pulse oximetry or P_{ET}CO₂. The postoperative course was uneventful. In a subsequent series of carotid endarterectomies under general anesthesia (catheters in extremity side opposite to surgery), bubbles were observed in the 12th consecutive patient (incidence 1/12(8%) - 2/13(15%)). The intra- and postoperative course of this patient was clinically unremarkable.

Bubbles observed in the IJV in 2/13 consecutive patients undergoing carotid endarterectomy are similar to those described following radical neck dissection (incidence: 42%).¹ Air embolism may occur when the surgical site is above the right atrium, with venous pressure at the incision site below atmospheric pressure, and air is entrained into the incised veins or venules.²⁻⁴ This may occur during carotid endarterectomy with the head moderately elevated. Alternatively, air may have been introduced via the catheters.⁵ It is unclear whether this phenomenon is a benign, albeit curious, event or a harbinger of a clinically important air embolism.

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REFERENCES

- 1 Rice JH, Gonzalez RM. Large visible gas bubbles in the internal jugular vein: a common occurrence during supine radical neck surgery? *J Clin Anesth* 1992; 4: 21-4.
- 2 Palmon SC, Moore LE, Lundberg J, Toung T. Venous air embolism: a review. *J Clin Anesth* 1997; 9: 251-7.
- 3 Lowenwirt IP, Chi DS, Handwerker SM. Nonfatal venous air embolism during cesarean section: a case report and review of the literature. *Obstet Gynecol Surv* 1994; 49: 72-6.
- 4 Roe BB. Air embolism prevention. *Ann Thorac Surg* 1987; 44: 212-3.
- 5 Rubinstein D, Dangleis K, Damiano TR. Venous air emboli identified on head and neck CT scans. *J Comput Assist Tomogr* 1996; 20: 559-62.

Abdominal distension during transurethral resection of a bladder tumour

To the Editor:

Several points deserve attention in Oyston's¹ report of gastric distension during positive pressure ventilation through a laryngeal mask airway (LMA).

Peak airway pressure should be < 20 cm water if the patient's lungs are healthy, the LMA is correctly placed, depth of anesthesia and/or neuromuscular blockade are adequate and abdominal pressure is not increased. Peak airway pressure of 28 cm water with a tidal volume of 500 mL indicates partial airway obstruction and should prompt a search for possible causes. Auscultation of the epigastrium would have demonstrated gastric insufflation and the need to remove and reposition the LMA correctly before gross gastric distension occurred. A tympanic percussion note would distinguish abdominal distension due to gastric insufflation from leakage of fluid from a ruptured bladder.

On the rare occasions when gastric decompression is required, we ventilate with 100% oxygen, remove the LMA and pass a gastric tube through a Williams airway intubator (Anesthesia Associates, San Marcos CA) to aspirate air and/or gastric fluid. We then remove both devices, reinsert the LMA and confirm its correct position. Although one of us helped to design the airway intubator for blind tracheal intubation,² we find that it is also an excellent conduit for an oral gastric tube.

The size 3 LMA is now considered too small for positive pressure in adult females. It may fit poorly around the laryngeal inlet, or pass into the proximal esophagus.³ Current European practice is to use size 4 for adult women and size 5 for adult men when positive pressure ventilation is used.^{3,4}