

ing drugs (NMBDs). Anesthesia was maintained with desflurane in oxygen, and her trachea was extubated at the end of the procedure without incident. Save for a prolonged duration of analgesia lasting approximately 30 hr, telephone follow-up revealed that the patient's recovery was unremarkable with eventual complete resolution.

Traditionally, due to concern about local anesthetic toxicity on the demyelinated nerve, anesthesia options for patients with CMT have been limited to general anesthesia. However, a recent retrospective review,<sup>1</sup> which included patients with multiple sclerosis, did not demonstrate an increase in adverse outcomes. If the disease is progressing in CMT patients, the use of depolarizing NMBDs may cause hyperkalemia, and CMT patients may be sensitive to non-depolarizing agents; however, Antognini<sup>2</sup> reports the safe use of succinylcholine in CMT patients. Other authors report sensitivity to non-depolarizing NMBDs.<sup>3</sup> Patients with OSA can be sensitive to opioids used for postoperative analgesia, as can CMT patients.<sup>2</sup> Minimizing the use of opioids is reasonable in patients with significant COPD and OSA. Interestingly, the duration of the block (about 30 hr by patient report) was longer than expected. Other authors have reported prolonged duration of epidural anesthesia, but not spinal, in patients with CMT.<sup>4</sup> Also, there were no resulting complications from using general anesthesia in our patient. However, according to Reah *et al.*,<sup>5</sup> if general anesthesia is used in patients with CMT, postoperative ventilation is likely to be required. This requirement could possibly be secondary to the fact that Reah *et al.* patients were pregnant, a condition known to exacerbate CMT.

The use of a peripheral nerve block, in this patient with CMT, OSA, and morbid obesity, spared excessive postoperative use of opioid analgesics. Also, providing optimal analgesia enhanced our ability to manage her successfully as an outpatient. Review of the available literature failed to show a link between CMT and adverse neurologic outcomes, albeit with a very small number of patients reported. Lacking evidence to the contrary, we believe that peripheral nerve blocks should be considered as an option in the anesthetic care of patients with CMT.

Ann H. Bui MD

Alan P. Marco MD MMM

University of Toledo Medical Center, Toledo, USA

E-mail: alan.marco@utoledo.edu

Competing interests: None declared.

Accepted for publication July 18, 2008.

## References

- 1 Hebl JR, Horlocker TT, Schroeder DR. Neuraxial anesthesia and analgesia in patients with preexisting central nervous system disorders. *Anesth Analg* 2006; 103: 223–8.
- 2 Antognini JF. Anaesthesia for Charcot-Marie-Tooth disease: a review of 86 cases. *Can J Anaesth* 1992; 39: 398–400.
- 3 Pogson D, Telfer J, Wimbush S. Prolonged vecuronium neuromuscular blockade associated with Charcot Marie Tooth neuropathy. *Br J Anaesth* 2000; 85: 914–7.
- 4 Schmitt HJ, Muenster T, Schmidt J. Central neural blockade in Charcot-Marie-Tooth disease. *Can J Anesth* 2004; 51: 1049–50.
- 5 Reah G, Lyons GR, Wilson RC. Anaesthesia for caesarean section in a patient with Charcot-Marie-Tooth disease. *Anaesthesia* 1998; 53: 586–8.

## *The Rusch Flexi-Slip stylet for ProSeal™ laryngeal mask airway insertion*

To the Editor:

The ProSeal™ laryngeal mask airway (PLMA; Laryngeal Mask Company North America, San Diego, CA, USA) consists of a flexible airway tube and a soft laryngeal mask, and is used to accommodate variations in airway anatomy, while minimizing the risk of oropharyngeal trauma. The manufacturer recommends inserting the PLMA with an introducer tool to facilitate insertion. Due to the lack of an internal supporting structure, the soft laryngeal mask may tend to fail, or insertion may be impeded as a result of impaction of the PLMA at the back of the mouth, or folding over of the distal cuff. To deal with these problems, we have adapted a new technique using a flexible and soft-tip stylet (Rusch Flexi-Slip stylet no. 503000-4.3/5.6; Willy Rusch AG, Germany) and inserting it into the drain tube of the PLMA.

The Rusch Flexi-Slip stylet is made of a malleable coated wire that retains its shape to facilitate endotracheal intubation, and it has a soft atraumatic tip that helps to prevent tissue damage during insertion. To facilitate insertion of the PLMA, the stylet is inserted into the proximal end of the drain tube of the PLMA and advanced until the tip is within 1 cm of the distal end of the drain tube. The proximal end of the stylet is then bent backwards 180° to prevent the stylet from moving forward over the distal end of the drain tube. Finally, the PLMA/stylet is bent to a 90° angle

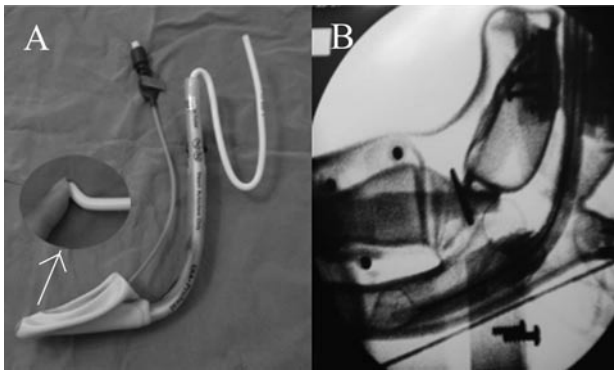


FIGURE The ProSeal/styler setting (Panel A) The PLMA/styler setting is bent to a 90° angle around the laryngeal portion of the PLMA, and the soft atraumatic tip of the Rusch Flexi-Slip styler (Arrow). The natural curve of the PLMA conforming to the anatomy of the oropharynx is shown on a radiographic image of a manikin (Panel B).

around the laryngeal portion of the PLMA (Figure, Panel A). The PLMA is lubricated and the cuff is then fully deflated. Lubrication of the styler helps to ensure smoother removal. During insertion, the PLMA/styler is advanced into the mouth and the tip is rotated caudad into the different axes of the oropharynx with a simple wrist motion, similar to insertion of a laryngoscope behind the base of the tongue. When the laryngeal mask passes the base of the tongue, the styler is removed and then the cuff is inflated.

Yodfat<sup>1</sup> has reported that creation of a 90° angle with a rigid styler close to the laryngeal portion of the laryngeal mask airway improves the rate of successful insertion. X-ray of a manikin reveals that a 90° angle of the airway tube, following the anatomy of the oropharynx, facilitates proper insertion (Figure, Panel B). The introducer recommended by the manufacturer provides the appropriate angle to facilitate insertion, but not an effective support to prevent the distal cuff from folding over. The insertion technique using the Rusch Flexi-Slip styler provides both an optimal shape to facilitate insertion and a means to prevent backward-folding of the tip of the mask. This technique is different from other guiding techniques<sup>2,3</sup> where a guide (e.g., a gum-elastic bougie or a suction tube) is placed into the esophagus; it also does not involve protrusion of the styler out of the drain tube. In addition, the soft atraumatic tip of the styler can maintain the soft feature of the distal end of the cuff. Potential oropharyngeal trauma can be minimized, and laryngoscope-guidance<sup>2</sup> is not necessary. We have used this technique in over 200 patients scheduled for elective surgeries with no observable airway morbidity. The rate of first-attempt insertion of the PLMA

is enhanced, and we find that this technique is especially helpful for obese patients and those with a large tongue.

No single technique is ideal for all patients. This technique of using the Rusch Flexi-Slip styler provides an easy and effective approach to insertion of the PLMA. Formal studies are warranted to validate these initial clinical experiences.

Hung-Shu Chen MD\*

Ping-Hsin Liu MD\*

Kao-Chi Chung PhD†

E-Da Hospital, Kaohsiung,\* Institute of Biomedical Engineering,† National Cheng Kung University, Tainan, Taiwan

Funding sources supporting the submitted work: Department of Anesthesiology, E-Da Hospital.

E-mail: teasy@pchome.com.tw

Accepted for publication July 21, 2008.

## References

- 1 Yodfat UA. Modified technique for laryngeal mask airway insertion. *Anesth Analg* 1999; 89: 1327.
- 2 Howath A, Brimacombe J, Keller C, Kihara S. Gum elastic bougie-guided placement of the ProSeal laryngeal mask. *Can J Anesth* 2002; 49: 528–9.
- 3 Garcia-Aguado R, Vinales J, Brimacombe J, Vivo M, Lopez-Estudillo R, Ayala G. Suction catheter guided insertion of the ProSeal™ laryngeal mask airway is superior to the digital technique. *Can J Anesth* 2006; 53: 398–403.