regaining consciousness, he complained of severe head and neck pain, accompanied by photophobia, nausea and retching. This initially led us to consider a diagnosis of inadvertent dural puncture during epidural placement of the SCS leads. However, on examination, he was found to be pyrexial (38.6°C) and hypertensive (blood pressure 176/104 mmHg); nuchal rigidity and Kernig's sign were also evident. Intravenous morphine, tramadol and paracetamol were of limited analgesic benefit. Within 24 hr, however, the pain and fever abated and all neurologic symptoms resolved completely. The patient later revealed that he suffered from intermittent headaches of a similar nature, but had always considered them to be 'migraine attacks'. Case reports have shown recurrent aseptic meningitis, though rare, may occur in FMF.[2,3] Interestingly, the meningitis attacks can be precipitated by injection of metaraminol intravenously; indeed, the metaraminol provocative test has been proposed as a specific diagnostic test for FMF and benign recurrent aseptic meningitis (Mollaret's meningitis).[3] It therefore appears likely that this patient's meningismus symptoms were triggered by the administration of metaraminol, and we would suggest anesthesiologists remain vigilant to this little-known risk associated with the use of metaraminol in patients with FMF.

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Glidescope™ /gastric-tube guided technique: a back-up approach for ProSeal™ LMA insertion

To the Editor:

We read with interest the article by Garcia-Aguado *et al.*[1] reporting the use of a suction catheter inside the drain tube as a guide for Proseal™ laryngeal mask airway (PLMA) positioning. This technique may improve the success rate of PLMA insertion with less trauma to the mouth. For several years, we have been performing PLMA insertion with digital or introducer tool techniques. Our first-attempt success rate with a midline or lateral approach technique is > 80 %, similar to that reported by Cook *et al.*[2] We agree with the authors that priming the PLMA with a 'guide' may provide an advantage in assuming better anatomic conformation of the mouth. For example, a narrow palate or an angle < 90° between the oral and the pharyngeal axis of the posterior tongue may result in folding over the distal cuff of the PLMA, preventing its correct positioning. We also observe that the PLMA first-attempt success rate is lower for less experienced users, who often find that this 'guide' directs the distal PLMA cuff towards the oesophagus.

We generally use a 14 F gastric tube (GT) as a prime in the drain tube to facilitate positioning of the PLMA. To overcome the limitation of the "blind GT insertion" experienced by Garcia-Aguado, we perform GT positioning using direct visualization of the pharynx with the Glidescope™. The Glidescope may be less traumatic than direct laryngoscopy,[3] and we have used this device to facilitate five cases of difficult PLMA positioning (Table) where the digital (either midline and lateral approach) and introducer tool insertion techniques failed. The Glidescope/GT

TABLE Demographic data, etiology of failed insertion and PLMA Glidescope/gastric-tube insertion time

Patient	*Age*	*Sex*	*Weight (kg)*	*Anatomic features*	*Insertion time* (sec)*
1	62	Female	62	Very narrow palate	40
2	42	Female	55	Inter-incisor gap < 3 cm	55
3	35	Female	71	Hypertrophic tonsils	50
4	51	Female	59	Narrow palate	38
5	24	Female	55	Oropharyngeal axis < 90°	35

*Time requested only for Proseal™ laryngeal mask airway (PLMA) insertion with the Glidescope/gastric-tube technique.

guided technique facilitated correct PLMA positioning in all five cases.

Our technique may present several advantages over the 'blind' suction catheter technique and digital techniques when PLMA positioning is found to be difficult. We believe that our approach may be associated with a higher success rate while providing some protection against regurgitation. In addition, the distal cuff is less likely to fold over as the drain tube is stiffer (i.e., when the oropharyngeal axis is < 90°, the GT could guide the distal cuff into the oropharynx). Furthermore, the GT can be used as a guide for reinsertion if the PLMA is displaced, and finally, direct visualization of the GT advancement reduces the risk of misplacement, overcoming one of the limitations observed by Garcia-Aguado *et al.* and Drolet *et al.*[4] The Glidescope/GT technique may also prove to be a more gentle procedure than use of the laryngoscope-guided gum elastic bougie technique advocated by Brimacombe *et al.*[5] Our initial experience is encouraging and will be further explored though a randomized, controlled trial.

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Less invasive cardiac output monitoring for OPCAB surgery

To the Editor:

Off-pump coronary artery bypass (OPCAB) surgery has been shown to provide improvement of select short-term and mid-term clinical and resource outcomes with similar mortality, stroke and myocardial infarction rates compared with conventional coronary artery bypass grafting using cardiopulmonary bypass.[1] Key challenges associated with OPCAB surgery include the detection and prevention of myocardial ischemia, and ensuring adequate blood flow and oxygen delivery to the vital organs. Both challenges are closely interrelated, hence the need for reliable and sensitive monitoring tools in order to detect the rapid hemodynamic changes during heart displacement in several coronary grafting positions. Abrupt hemodynamic deterioration may occur, particularly during coronary grafting on the lateral and inferior surfaces of the heart, due to twisting and virtualization maneuvers.[2]

Transesophageal doppler is a monitoring technique that measures descending thoracic aortic blood flow (TABF) and calculates cardiac output (CO) using an established algorithm. Descending TABF represents blood flow through the aortic valve minus flow to the cerebral, coronary and upper extremity vascular beds. Positioning the probe is not difficult during heart displacement, and requires only a minor degree of correction during grafting on the lateral and inferior surfaces of the heart to obtain maximum amplitude of the Doppler signal. The esophagus and thoracic aorta run parallel for more than 2 cm between the fifth and sixth dorsal vertebrae, and this relation remains fairly constant during heart displacement.

Continuous CO monitoring by the thermodilution technique most commonly used in cardiac surgery, has an *in vitro* lag time of five to 15 min to detect changes in CO. This delay is a limiting feature for the detection of very sudden hemodynamic changes associated with OPCAB. Furthermore, repeated intermittent measures are time-consuming, especially during the critical period of heart displacement. Wouters *et al.* recommend the use of a thermistor-tipped brachial arterial catheter that allows CO assessment by both transpulmonary thermodilution and arterial pulse contour analysis, and the performance of the two methods was comparable to thermodilution assessment.[3] We recently reported an important discrepancy between thermodilution and transesophageal Doppler assessment of CO during heart displacement in OPCAB surgery. Although mixed venous blood