therapeutic doses of this drug combination (MAOI + SRI). If such drugs have been used, the clinician needs to have a low threshold for suspecting a serotonergically-mediated adverse drug reaction, and to act even if the full gamut of typical symptoms are not yet present. Thus, if an overdose of moclobemide plus an SSRI has been ingested, one should not wait for symptoms to emerge, one should prepare to act as if they are likely to manifest soon and severely. One should also note anesthetics, benzodiazepines and muscle relaxants will substantially alter the picture by suppressing and masking symptoms. Indeed they constitute 'treatment', and withdrawing them may precipitate an exacerbation.

It is only drugs with SRI properties that need to be avoided preoperatively for a few days (depending on half-life: fluoxetine may need a 30-day washout): drugs with other mechanisms of serotonergic action will not be dangerous. Further detailed information, references and discussion is available through my web site www.psychotropic.com

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Accepted for publication February 21, 2008.

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Reply:

We appreciate Dr. Gillman's comments and recent assistance in providing some of his references. The publication of methylene blue's experimental properties as a monoamine oxidase inhibitor was subsequent to our submission. We are pleased that it has been highlighted.¹

Based on two published cases, it was hypothesized that serotonin syndrome could be the result of a drug interaction between methylene blue and selective serotonin reuptake inhibitors.² Our review suggests that this combination may be responsible for the majority of reported cases, but one case had methylene blue alone causing delirium.³ Serotonin reuptake inhibitors are frequently prescribed, and it must be presumed that many patients receiving these medications have been exposed to methylene blue without any obvious ill effect. There are currently no data to suggest this is a predictable, or frequent reaction.

There is a need to act early in the context of a suspected reaction, but there is no definitive cure or treatment for serotonin syndrome. We advocate prevention through a multidisciplinary approach, with cooperation between anesthesia, psychiatry and surgery. Anesthesiologists and surgeons need to be vigilant for potential interactions during preoperative assessments, and discuss with psychiatric colleagues the option of discontinuing medications or delaying surgery. However, in complex clinical scenarios, such solutions may be neither pragmatic nor convenient, and surgeons should consider alternative techniques to localize the parathyroid glands.

Until further data become available, we disagree that this is the final chapter to an unusual and challenging clinical problem.

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Problems with laryngeal mask airway cuff pressure

To the Editor:

Regarding the recently-published article by Lardner *et al.*¹, one concern of any supraglottic inflatable airway

device is the potential for pressure-related injury to the pharyngeal structures. The mucosal pressure exerted by these devices depends on several factors, including the intracuff pressure. Inflation of the laryngeal mask airway (LMA) cuff, with the recommended volume of air, may lead to hyperinflation with a high intracuff pressure, especially in children.² This pressure can be transmitted to the pharyngeal mucosa to reduce capillary perfusion. A pressure of 34 cm H₂O has been reported to compress the pharyngeal blood vessels in adults.³ As children have a lower blood pressure, their blood vessels are more likely to be compressed, even at lower cuff inflation pressures. The relationship between intracuff pressure and the pressure exerted on the pharyngeal mucosa is unpredictable, and may not have linear correlation.⁴ Since the volume of air required to provide an adequate seal depends on several factors, and varies between patients, the cuff should be inflated with a minimum volume of air. A sensible way to do this is to inflate the cuff with small increments of air, so as to prevent cuff leak at 15 cm of H₂O airway pressure.² It is also very important to maintain the leak pressure below 15 cm H₂O. Gastric insufflation is greatly increased in the presence of positive pressure ventilation with inspiratory pressures exceeding 17 cm H₂O, and clinically unrecognized LMA malpositioning.⁵ In their study, Lardner *et al.*¹ inflated the LMA cuff with air up to the maximum pressure of 60 cm H₂O following its insertion. This pressure should be considered as high for children, and may exert high pharyngeal pressure, potentially leading to pressure-related injuries, especially after prolonged use. A leak pressure exceeding 15 cm H₂O was reported, which could have resulted in more gastric insufflation during positive pressure ventilation with high inspiratory pressures.

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Reply:

We thank Dr. Mandal for his comments, and we agree with his exhortation to limit laryngeal mask airway (LMA) cuff pressures to the minimum required to secure an adequate seal, which is indeed in our normal clinical practice. However, the constraints of a clinical trial dictated a standardized cuff pressure for both devices, so we followed the manufacturer's recommendation to inflate to a pressure of 60 cm H₂O (The Intavent Laryngeal Mask Instruction Manual, 2nd edition, Intavent Ltd; 1993). We believe this was safe.

To support his counterpoint, Dr. Mandal refers to a study¹ that used a heavily modified cuffed oropharyngeal airway, in which cuff pressures and mucosal perfusion were not measured simultaneously. As evidence of mucosal hypoperfusion at LMA cuff pressures of 60 cm H₂O, this is, at best, circumstantial, and the recommendations are speculative. The relationship between cuff and pharyngeal mucosal pressures is far from straightforward² and correlation between cuff pressure and nerve or mucosal damage is lacking. Pharyngeal mucosal pressures are likely to depend on several factors, including cuff pressure, pharyngeal dimensions, and muscle tone. We must not forget, also, that the cuff of an LMA needs to be inflated sufficiently to function safely as an airway.

Our study was not designed nor powered to determine the incidence of mucosal damage. Nonetheless, post-operative airway complications were uncommon and short-lived, suggesting that significant nerve or mucosal damage did not occur.

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Advancing the endotracheal tube smoothly when using the GlideScope®

To the Editor:

I read, with interest, the article entitled, "A maneuver to facilitate endotracheal intubation using the GlideScope®".¹ In the case of a small mouth opening, the authors recommend inserting the blade of the GlideScope (Verathon, Bothell, WA, USA) from the left side of the mouth. To illustrate this technique, the authors include a photograph revealing a larynx in a deviated position. In Image C, it appears that the angling of the blade to the left might impede passage of the endotracheal tube.

Having used the GlideScope extensively, I have also encountered difficulty in establishing adequate space for the endotracheal tube, and I have determined two successful approaches. Firstly, to obtain a view of the vocal cords, the GlideScope can be inserted in the midline. Then, if there is insufficient room in the oropharyngeal cavity to pass the endotracheal tube, the entire GlideScope handle can be shifted to the left to allow passage of the tube. Next, the GlideScope can be readjusted back to the midline to provide the usual laryngeal view. Another approach is to pass the endotracheal tube in the mouth under direct vision, but prior to placement of the GlideScope handle.

The authors report some difficulty in passing the endotracheal tube in 25 of 120 patients; however, they do not describe their actual technique and they do not indicate, in how many of these patients, tracheal intubation was unsuccessful. For my part, I have found it much easier to advance the tube by using the GlideScope rigid stylet which features a 90° curve. As the tube is being advanced through the vocal cords, it is rotated 90° clockwise. The stylet is simultaneously pushed out with the thumb to assist in placement of the endotracheal tube.

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Reference

- 1 Cho JE, Kil HK. A maneuver to facilitate endotracheal intubation using the GlideScope (Letter). *Can J Anesth* 2008; 55: 56–7.

Reply:

Thank you for the opportunity to respond to this letter. We appreciate Dr. Neustein's interest in our maneuver to facilitate endotracheal intubation using the GlideScope, and we agree with the techniques that he recommends. The first method, involving a shift of the GlideScope handle to the left to allow passage of the endotracheal tube, is very similar to our approach.¹ Although the laryngeal view may be deviated from the midline, insertion of the endotracheal tube will be easier, due to increased space to facilitate passage of the tube. We evaluated the difficulty of the tracheal tube insertion using GlideScope by subjective grading (easy, mildly difficult, and difficult) of the anesthesiologists who performed the intubations. Of 120 cases that were graded as being "difficult" in directing the endotracheal tube into the larynx, endotracheal intubation was successful in all cases using this method.¹

A second method suggested by Dr. Neustein is to pass the endotracheal tube in the mouth under direct vision, prior to insertion of the GlideScope blade. However, in the case of small mouth opening or a narrow oral cavity, this method may prove to be limiting.

We do agree with the suggestion that a rigid stylet with a 90° curve is helpful to facilitate tracheal tube advancement. A 90° stylet angle has been recommended for successful tracheal intubation using the GlideScope.^{2,3} In case of a small mouth or a narrow oral cavity, tracheal tube insertion with the conventional angle of stylet will be difficult.

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