Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

threshold for poor outcome in previous studies was not consistent (MAP <50 to <75 mm Hg).[6] Third, the authors claimed that using hypotension prevention as the goal did not improve outcome according to the study by Sessler and colleagues[7]; however, that study used a slightly different goal of a triple-low alert (MAP <75 mm Hg, bispectral index <45%, and mean minimum alveolar concentration <0.8).[7] The benefits of avoidance of hypotension are evident in various studies including a large multicentre RCT.[8] Fourth, the area under receiver operating characteristic curve for PPI to predict poor outcome was low (0.56 with 95% confidence interval of 0.52–0.59), indicating poor predictive ability (sensitivity 0.52 and specificity 0.60). Hence, a large prospective trial is needed to confirm the findings of Agerskov and colleagues.[1] Finally, evaluation of peripheral perfusion should incorporate other indices than the PPI which can be affected by temperature, stress, pain, and other forms of sympathetic overactivity.[9]

In conclusion, we find that the results of Agerskov and colleagues[1] should lead to changes in practice regarding perioperative haemodynamic management such as more judicious use of vasopressors, fluids, or both to treat hypotension, depending on the perfusion status, and allowing use of deliberate hypotension in some surgeries that would benefit from lower arterial pressure while maintaining peripheral perfusion.

Declaration of interests

The authors declare that they have no conflicts of interest.

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doi: 10.1016/j.bja.2021.09.033
Advance Access Publication Date: 4 November 2021

A double-curved tube for McGrath® MAC videolaryngoscope-guided tracheal intubation

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Keywords: Airway management; COVID-19; difficult airways; laryngoscopes; stylets; tracheal intubation; tracheal tubes; videolaryngoscopes

Editor– Videolaryngoscopes are useful for tracheal intubation in patients with and without difficult airways. Recently, guidelines and expert recommendations recommend the use of a videolaryngoscope for the initial attempt at tracheal intubation in patients with COVID-19, to maximise the first pass success rate and to minimise exposure of healthcare workers during the procedure.[1,2] Nevertheless, the efficacy of the videolaryngoscopes may differ considerably, and thus a suitable device should be chosen.[3–5] One possible problem with the use of a videolaryngoscopes is that, even when the glottis is clearly seen on the monitor screen, it may be difficult to advance the tube toward the glottis, prolonging the time to tracheal intubation.[4] This difficulty may occur when the laryngoscopist is inexperienced, the camera of a

videolaryngoscope is positioned too close to the glottis (which negates the space needed for tube passage), a tracheal tube without a stylet is used, or when a tracheal tube is not formed to an optimal shape.[4–6]

We have been using the McGrath® MAC (Covidien, Tokyo, Japan) videolaryngoscope routinely, and have found, as reported,[5,6] that tracheal intubation was frequently not easy (incidence of 10–30%), even when the distal side of a tracheal tube (with a style inserted) was curved at several different angles. It was frequently difficult to drive the tip of the tube toward the glottis, whereas the tube frequently obscured the glottic view seen on the video monitor. In addition, when the tube was strongly curved, it was frequently difficult to remove the stylet after successful intubation.

We found that this problem could be solved by making two curves to the tube (Fig. 1): a stylet is placed in a tracheal tube, and the distal segment of the tube is curved to the shape of the blade and, at the proximal edge of the single-use blade, the tube is curved to the right at an angle of approximately 45 degrees to the vertical. Similar to insertion of a double-lumen tube, the tube is inserted from the right corner of the mouth, and the tip of the tube is advanced toward the glottis by rotating the tube, without obscuring the glottic view seen on the video monitor (Supplementary Appendix 1).

Supplementary video related to this article can be found at https://doi.org/10.1016/j.bja.2021.09.033

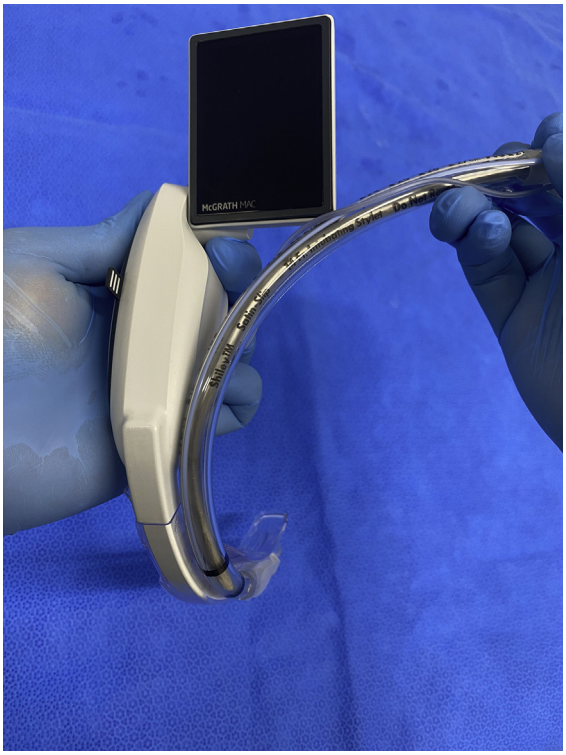

Fig 1. A double-curved tube for intubation using a McGrath® videolaryngoscope: a stylet is placed in a tracheal tube, and the distal segment of the tube is curved to the shape of the laryngoscope blade and, at the proximal edge of the single use blade, the tube is curved to the right at an angle of approximately 45° to the vertical.

The institutional research ethics committee indicated that no approval for this report would be required, as the report was from a personal logbook (of NT, a 4th-year trainee) and no personal information of patients were included. We used this method in 361 adult patients (183 males and 178 females), using a size 3 standard blade of the McGrath® MAC in all the patients, who were all Asian and were relatively short in stature (<180 cm). In 61 of 361 patients, at least one of the following predictive factors for difficult laryngoscopy (using a Macintosh blade) was present: difficulty in mouth opening, restricted neck movement, macroglossia, micrognathia, protruded teeth, short neck, obesity (body mass index > 30 kg m^{-2}), obscured view of the oropharynx (Mallampati class 3 or 4).

In 360 of 361 patients, the glottis could be seen at laryngoscopy, whereas in the remaining one patient, only the epiglottis (and not the glottis) could be seen. In the 360 patients with a clear view of the glottis at laryngoscopy, tracheal intubation was successful at the first attempt (without the need to re-adjust the shape of the tube) in 358 patients (99.4%: 95% confidence intervals: 98.0%–99.8%). There was no difficulty in removing the stylet in any of these patients. We did not formally measure the time required for tracheal intubation, but intubation was usually smooth, as shown in the Supplementary video. In the remaining two patients, tracheal intubation could not be achieved at the first attempt because the tip of the tube impacted the arytenoids. Tracheal intubation was successful at the second attempt in these patients by adding a slightly stronger curve to the tube.

In the one patient in whom the glottis could not be seen at laryngoscopy, tracheal intubation was unsuccessful at the first attempt. This patient was an obese woman with a small jaw and had an obscured view of the oropharynx on mouth opening (Mallampati class 3). The tip of a size 3 blade could be inserted deep enough, but only a small part of the glottis could be observed (by applying a downward pressure on the neck), and the tip of the tube could not be advanced toward the glottic opening. Tracheal intubation was successful at the second attempt, by preparing a tracheal tube with a bend angle of approximately 70°.

We did not carry out a formal randomised study, and all the intubation attempts were made by one anaesthetist (NT), and thus it is not possible to draw a firm conclusion whether or not our insertion method is superior to the conventional insertion methods. Nevertheless, when the glottis can be seen at laryngoscopy, insertion of a double curved tube would be easy in more than 98% of cases. In addition, several anaesthetists (including TA) at our department have routinely been using this insertion method, and have found it useful. We recommend using a double curved tube for a McGrath® MAC videolaryngoscope-aided tracheal intubation.

Declarations of interest

NT has no conflict of interest; TA is an editor of the *British Journal of Anaesthesia*.

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doi: 10.1016/j.bja.2021.09.033
Advance Access Publication Date: 4 November 2021

Combining skin testing and basophil activation testing is useful for evaluation of life-threatening radiocontrast media anaphylaxis

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Keywords: allergy; anaphylaxis; drug allergy; immediate hypersensitivity reaction; radiocontrast media

Editor—Diagnosing life-threatening iodinated radiocontrast media anaphylaxis and identifying safe subsequent radiocontrast media are important for the anaesthetist. Approximately 2–3% of operations involve the use of radiocontrast media.[1] Life-threatening anaphylaxis[2] to radiocontrast media is estimated to occur in up to four in 10 000 patients.[3]

Immediate hypersensitivity reactions occur within 1 h of radiocontrast media administration, with 70% occurring within 5 min.[4] The mechanism of immediate hypersensitivity reaction to radiocontrast media is not fully elucidated.[4] Many groups hypothesise that detectable sensitisation on *in vivo* and *in vitro* testing may support an immunoglobulin E (IgE)-mediated mechanism for immediate hypersensitivity reaction. By this hypothesis, IgE-mediated mechanisms may account for >50% of life-threatening anaphylaxis, based on positive skin testing.[5] Drug provocation testing is the gold standard for allergy testing; however, it also cannot prove an IgE-mediated mechanism and may precipitate a life-threatening reaction.[4] Basophil activation testing is being studied as an alternative diagnostic test to skin testing, as there is minimum risk to the patient, requiring only peripheral blood collection *via* venepuncture. The performance characteristics of basophil activation testing are unclear, but it may have high specificity.[1] The exact diagnostic value of skin testing and basophil activation testing remains difficult to establish, as it requires comparison to drug provocation testing.

Identification of safe alternatives to radiocontrast media is important. Drug provocation testing is recommended only for skin-test-negative radiocontrast media.[4] Immunoglobulin E-mediated immediate hypersensitivity reaction may be associated with lower rates of cross-reactivity to other radiocontrast media compared with non-IgE-mediated reactions.[5] Whilst the prevalence of cross-reactivity amongst radiocontrast media is uncertain, it does not follow chemical classification. Three groupings (1 [ioxithalamate, iopamidol, iodixanol, iomeprol, ioversol, and iohexol], 2 [iobitridol and ioxaglate], and 3 [amidotrizoate]) have been proposed based on statistical analyses to guide assessment of cross-reactivity.[6]

Our study focuses on the usefulness of combination skin testing and basophil activation testing to diagnose life-threatening radiocontrast media anaphylaxis and plan safe subsequent radiocontrast media administration. The study was reviewed and approved by the local Human Research Ethics Committee (RESP/16/255). Patients with life-threatening radiocontrast media anaphylaxis were sequentially recruited at a tertiary institution in Sydney, Australia, between July 1, 2019 and June 30, 2020. Patients experienced symptoms consistent with life-threatening anaphylaxis within 1 h of radiocontrast media administration. Skin testing results to drugs administered before radiocontrast media administration were all negative. Clinical characteristics and mast cell tryptase levels were collected. Skin testing and basophil activation testing were performed to all radiocontrast media available in our institution: iodixanol (Visipaque™; GE Healthcare Australia Pty Ltd, Sydney, Australia), iohexol (Omnipaque™; GE Healthcare Australia Pty Ltd), iopromide (Ultravist®; Bayer Australia Ltd, Sydney, Australia), meglumine iotroxate (Biliscopin™; Bayer Australia Ltd), and sodium diatrizoate and meglumine amidotrizoate (Urografin®; Bayer Australia Ltd). Skin testing was performed to the European Academy of Allergy and Clinical Immunology guidelines.[4] Basophil activation testing was performed in line with our protocol[7] at 1:10 000–1:10 dilutions. Results were expressed as