CORRESPONDENCE

Alternative methods for laryngeal mask airway size selection in paediatric patients
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Editor,
We read with great interest the paper by Zahoor et al.1 reporting on a novel method for the selection of the size of a laryngeal mask airway in paediatric patients. This new method consists of using the size of the external ear to choose the size of the laryngeal mask airway. We would like to comment on that study.

Zahoor et al. argue that in children, the size of the little finger is used to estimate the size of the orotracheal tube but that no analogous method has been described for choosing the appropriate size of the laryngeal mask airway. However, we have previously described a method to estimate the correct laryngeal mask airway number according to the size of the fingers.2 This method consists of extending the hand with the palm up and applying the ventral surface of the laryngeal mask airway against the palmar side of the second, third and fourth finger kept together. The laryngeal mask airway that best fits with the width of these three fingers would then be chosen.

This ‘finger’ method showed an ‘excellent agreement’ with the gold standard (weight-based) method; the estimated kappa coefficient was 0.81. In contrast, the ‘ear’ method described by Zahoor et al. showed a ‘moderate agreement’ only; the estimated kappa statistic was 0.5. Furthermore, in our study, we included patients less than 6 months of age, which is one of the limitations of the study by Zahoor et al.

In conclusion, two anatomical related methods to choose the adequate size of the laryngeal mask airway in children have been described. Both tools are easy to use at the bedside and they are good alternatives to the standard weight-related method.

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References

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Preoperative testing in non-cardiac surgery patients: A survey amongst European anaesthesiologists
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Editor,
Van Gelder et al.1 demonstrated that a huge variety exists in the practice of preoperative evaluation throughout European countries. Not surprisingly, only half of the respondents reported ordering tests in accordance with guidelines and routine testing still is a common habit in certain countries.

Data of this study were collected in 2009. Since then, a number of newly developed guidelines and practice advisories have been published.2–4 The guideline from the European Society of Anaesthesiology3 needs special attention as the authors stated that the survey was supported by the European Society of Anaesthesiology and distributed to associated national societies. Thus, the findings of this survey have to be interpreted with caution as respondents might have been influenced by this guideline.

Another concern is that large European countries like France, Italy, Sweden, Norway and Russia were not...
represented within the study. Interestingly, Austria, Switzerland and Lichtenstein contributed by providing 15% of the data analysed. The large proportion of contributions from these small European countries could be the result of an intense discussion of preoperative evaluation there. For Austria, it has to be mentioned that a high-quality nationwide guideline on preoperative evaluation has been recently introduced recently.5

The authors report that nearly 20% of the participants would have no concerns if routine testing was eliminated. This implies that maybe up to 80% would have concerns. For certain clinical conditions, such as minor procedures like cataract surgery, evidence for eliminating preoperative testing is strong.6 In consequence, evidence-based guidelines could play a major rule in the perioperative process. As van Gelder et al.,1 state in their discussion section, the introduction of guidelines is challenging and the distribution of guidelines is still disappointing. We have recently concluded a healthcare project by involving an electronic decision tool for the dissemination of a preoperative guideline in Austria. Data of this project are in the publication process and the findings are promising. Our study group has just recently shown what an enormous economic impact such a system could have.7

The recognition of the importance and the daily practice of preoperative evaluation are in a state of changing paradigms. The study by van Gelder et al. must be seen as a significant contribution to the ongoing discussion of eliminating routine testing and promoting selective, evidence-based preoperative testing.

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Comment from the Editor: the authors of the European survey on preoperative testing did not wish to respond to this letter.

References
2 Preoperative evaluation of adult patients prior to elective, non-cardiac surgery: joint recommendations of German Society of Anesthesiology and Intensive Care Medicine, German Society of Anesthesiology and German Society of Internal Medicine. Anaesth Intensivmed 2010; 51:780–797.

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Was this accounted for in the study? Finally, the authors do not comment on the administration of corticosteroids. In our practice, dexamethasone is routinely administered to help control perioperative cerebral oedema.4 If corticosteroids were administered, as is done commonly, could this not have impacted biomarker levels? Third, our final thought was why a fourth arm in the study was not included? We would anticipate that an arm consisting of patients randomised to propofol and fentanyl would allow a more complete comparison between the interplay of inhalational and intravenous anaesthetics and narcotics. We suspect that for the primary outcome, equivalence would be found. However, more importantly, we would expect to further delineate differences in the secondary endpoints such as postoperative opioid requirements and nausea/vomiting.

Again, we applaud the authors for conducting a study of this size and importance. As the accompanying Commentary suggested,5 we as anaesthetists need to look beyond the operating room and examine further how our patient care in the perioperative period can contribute to outcomes.

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Reply to: anaesthetic considerations in measuring Aldrete score and long-term outcomes in craniotomy patients

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Editor,

We read with interest the letter by Bhavsar and Dang1 confirming the interest of the neuroanaesthesia community in our work.2 We shall try to respond to their comments point by point.

(1) Rationale for the use of midazolam and particularly the relatively high dose (5 mg)?

To define drug dosage in the three groups, we surveyed the 14 participating neuroanaesthesia units and agreed on the dosing details with all the investigators during a preenrolment meeting. We tried to replicate, as much as possible, everyday practice. We, therefore, designed a pragmatic equivalence trial. Pragmatic trials measure effectiveness, that is the benefit the treatment produces in ‘routine clinical practice’, as opposed to explanatory trials that measure efficacy, that is the benefit the treatment produces under ‘ideal’ conditions.3 Pre-medication with midazolam was standard in most of the units and it is a short-acting benzodiazepine in adults with an elimination half-life of 1 to 4 h. Average durations of surgery were similar; 312 min [standard deviation (SD) 88], 294 min (SD 88) and 318 min (SD 95) for the sevoflurane-fentanyl, sevoflurane-remifentanil and propofol-remifentanil groups, respectively. If a negative effect on time to achieve an Aldrete postanaesthesia score of 9 could be hypothesised (and we are not sure of it), this effect is equally distributed among all the groups.

(2) Rationale for both urine and serum biomarkers.

No extensive data are available on the use of stress biomarkers in anaesthesia. According to the predefined protocol of the NeuroMorfeo trial, blood and urine samples were collected in more than 400 patients to assay two stress markers, cortisol (in plasma and urine) and catecholamines (in urine only). Blood samples were drawn immediately before the induction of anaesthesia and again 1 h after postsurgery awakening. The first urine sample was collected over the 24 h preceding anaesthesia induction; the second urine sample was collected through a urinary catheter and drain bag from induction of
anaesthesia to 1 h after patient’s awakening. To account for different volumes of urine collected and period of collection, the concentration of all urinary markers was normalised to creatinine concentration. In the context of the present multicentre trial, this protocol seemed to us simple enough to grant its implementation in the already busy wards, while being ethically acceptable to the patients. Whether urine samples accurately reflect biological stress at a given time is suggested by the observation that changes in cortisol levels in the three experimental groups were qualitatively similar when measured in plasma or in urine. The point concerning the chronobiology of stress markers is well taken. However, as comparisons of changes over time in these markers were made across the three experimental groups (with no systematic bias in the daytime of sample collection), we feel that this should not be a major issue in the interpretation and validity of the data. Finally, Bhavsar and Dang are certainly right in putting a word of caution on the impact of dexamethasone on stress markers. Dexamethasone presurgical usage was equally distributed between the groups (sevoflurane-fentanyl: 58 of 137; sevoflurane-remifentanil: 56 of 136; propofol-remifentanil: 58 of 136). Its effect is homogeneously distributed among the study groups. (3) Why was not a fourth study arm included? When we initially planned the study, we designed it with two groups. We decided to opt for such a design because proven strategies already existed (sevoflurane-fentanyl) and the most recent treatment (propofol-remifentanil) was unlikely to have superior efficacy, but may have had other positive effects such as being safer, easier to use or less expensive. During the discussions we had with the centres, it was requested that a sevoflurane-remifentanil group be added because this strategy was frequently used. The fourth group Bhavsar and Dang are suggest, even if theoretically interesting, was not added because it was not frequently used in the Italian Neuroanaesthesia departments that participated in the trial, and even with three groups, Neuromorfoe was already the largest neuroanaesthesia trial ever conducted. The burden of adding yet another group of more than 100 patients was regarded as not easy feasible and would not have been covered by the funding that we obtained from the Italian Ministry of Health.

We believe that we have to challenge our beliefs and practices and stop arguing that small differences, mostly clinically insignificant and probably irrelevant, are crucial. Neuromorfoe, even if it leaves room for improvements and future studies are awaited, was a pragmatic trial designed to provide more solid elements to our clinical practice, to globally evaluate our anaesthesiological performance, and to improve patient outcome. We are grateful to Dr Bhavsar and Dang for their interest in our work and their appreciation.

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