Cuffed or uncuffed tubes during anaesthesia in infants and small children

Editor—The large randomized controlled trial of cuffed or non-cuffed tracheal tubes in small children demonstrated that experienced practitioners using exemplary (as opposed to standard) technique had a similar incidence of post-extubation stridor with either tube, and fewer repeat intubations with the cuffed tubes. 1

In the accompanying editorial, 2 it is proposed that paediatric anaesthetists should come into line with our adult colleagues and monitor cuff pressure routinely, or drop their opposition to cuffed tubes on the grounds of clinical unsuitability. There are two issues with this proposal, first, that cuff pressure monitoring can be assumed to be an intervention with no issues affecting current paediatric anaesthetic practice, and secondly, the assumption that it is widespread practice in adult anaesthesia at present.

Despite a profusion of reports all concluding that cuff pressures should be monitored routinely and frequently in order to minimize the incidence of tracheal tube cuff-related problems, 3 4 5 this practice seems to be difficult to institute. 4 5 Compounding this difficulty is the problem that many problematic intubations occur outwith the operating department, where equipment and advanced airway experience are not always immediately available. Anaesthetists are poor at assessing cuff pressure in current practice 4 regardless of the age of the patient, other specialities poorer still. 6 7

There are reasons for our failure to meet the standard of practice in the study, not just complacency or failure to buy the necessary equipment (although these contribute). There is an understandable reluctance to attach heavy items directly to airway devices as this may increase the risk of dislodgement or kinking of the tube. Infection control issues must also be considered. Direct transduction of tube cuff pressure using a standard monitoring line avoids some issues but introduces a snagging hazard.

Patients most at risk of airway complications relating to tracheal tubes are those who have been intubated more than 48 h. 8 With this in mind, if we change to cuffed tubes for all paediatric cases, and monitor them with the currently available, rather clumsy equipment, might we just be swapping one set of complications for another?

Recommendations for changes in practice should be informed by high class research, but should be cogent of the context of the day-to-day practice that affects those patients most at risk of the complications they seek to minimize.

Declaration of interest

G.B. and K.J. are involved with the development of a new device aimed at limiting tracheal tube cuff pressure.

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Editor—We thank Drs Bell and Janossy for their constructive comments on our study. 1 We are fully aware of and share their concerns. The slow pace of the medical industry to produce a simple and affordable cuff pressure monitoring-limiting device is equally frustrating for us. Despite clear evidence that cuff pressure controlling is advantageous in adults and essential in children, it has been difficult so far to include cuff pressure control into routine anaesthetic practice. This, however, should not entail adult anaesthetists to continue to block laryngeal mask airway and tracheal tube cuffs with excessive pressures nor should it entail paediatric anaesthetists to continue to use uncuffed tracheal tubes with multiple tube exchanges and imprecise ventilation. Instead, it must strengthen our request for such a device and its introduction into anaesthetic practice. Other monitoring devices, such as pulse oximeters, capnometers, ultrasound machines, etc., although once considered non-essential, cumbersome, and too expensive represent today standard anaesthesia equipment. Our study has shown that even with current equipment cuff pressure controlling can be promptly done. For the future, however, simpler and cheaper devices are needed. We have our own projects in this field 9 and are fully supportive of all other similar efforts. 10–13

Declaration of interest

M.W. and A.G. have been involved in the development and evaluation of a new cuffed paediatric tracheal tube in co-operation with Microcuff GmbH, Weinheim, Germany. A.G. has a consulting agreement with Kimberly Clark, Health Care, Atlanta, GA, USA. M.W. has a consulting agreement with Covidien, Athlone, Ireland.

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Cuffed and uncuffed tracheal tube in children

Editor—We read with interest the article by Weiss and colleagues regarding the use of cuffed or uncuffed endotracheal tubes. Although this was once a hotly contested debate, we find that more and more centres are switching to the use of cuffed tubes in younger children and infants. Our experience has been the same and the validation of these data in a large prospective randomized trial only confirms our belief that this is indeed safe. One main advantage of the use of the cuffed tube is the absence of the multiple intubation attempts to change the tracheal tube when a significant leak is observed. The micro-cuff may be an additional benefit that we now have over the conventional cuffs. We fully endorse the authors’ view that cuffed tracheal tubes can be used safely in children.