

Use of Paralytic with Rescue Airway Confirmed by Capnography

Question: Our state protocol for failed RSI intubation in which a rescue airway was used (Combitube, LMA or King) that was confirmed by capnography, calls for post-intubation management. Post intubation management under the protocol is for a long term sedative and long term paralytic (in our case versed and vec.). Are there any contra-indications for using a long term paralytic with a rescue airway that is confirmed by capnography?

Answer: (From Aaron Bair, MD) Regarding the use of long term paralytics after the placement of an extraglottic device, I am not aware of any prehospital evidence either way.

In our region, our prehospital protocols do not use paralytics in this context. This is presumably because the patient does not need chemical paralysis due to the previously given RSI meds or they are obtunded to the point that it is just not necessary.

However, I could also see that fully sedating and paralyzing a patient for transport would potentially make the transport easier to manage. I would just worry that the use of paralytics without a definitive airway could get dicey if the extraglottic airway becomes dislodged (though presumably continuous capnography would help detect this issue).

Answer: (From Ron M. Walls, MD) The overall trend nationally is toward increasing use of sedation and analgesia and minimizing use of paralytic agents for post-intubation management, but the issues in EMS are very different because of the threat presented by a mobile patient in a fixed space. Overall, I agree with Aaron. There is no real evidence, but Combitubes and LMAs are used for elective general anesthesia all over the world (Combitube more in Europe). So, provided appropriate caution is used to secure the tube and that sedation and paralysis are managed as for an ETT, I see no problem with it. The real key for me would be to be confident, while the drugs for RSI are still on board, that ventilation/oxygenation will indeed be successful.

Emailed Comment in Response to Above:

I am currently interested in taking one of your upcoming courses and was reading your website. I was dumbfounded by the response given as pasted below. Without personally knowing the faculty, I would bet (heavily) they are Emergency Medicine based on not Anesthesia providers. The LMA in this situation should never be used with a paralytic agent. I know there are some European agencies who would use it this way but is not the standard in the US. The LMA is really made for spontaneously breathing patients that are NPO for 8 hours and that are not undergoing positive pressure ventilation. We do use them as a rescue device but I would never propose giving vecuronium, especially in the pre-hospital environment. (I have extensive prehospital care experience.)

I hope the course proves much better,

Jim Doran, CRNA, MS
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Jim,

Mike Murphy here. I am the Course Director for The Difficult Airway Course: Anesthesia™ and The Difficult Airway Course: EMS™, and a cofounder of The Difficult Airway Course: Emergency™. As you might have guessed, I am double boarded in EM and Anesthesiology (both US and Canada) and am currently the Professor and Chair of Anesthesia at a Canadian University...but I have studied and worked in both countries. I have designed and implemented EMS systems in several jurisdictions and countries and served as Medical Director of ground and air EMS systems (the latter in the US). You may be familiar with the text we use as a syllabus for the course that Orlando Hung and I edit, *Management of the Difficult and Failed Airway*.

I didn't pen the website response to the medic's question you refer to. That response came from Aaron Bair, one of the National Faculty for The Difficult Airway Course: Emergency™ and a leading educator and researcher in airway management. He is based in California.

Ron Walls is the Chair of Emergency Medicine at Brigham and Women's Hospital in Boston and is a Professor at Harvard Medical School. Ron is the course director for The Difficult Airway Course: Emergency™. He is another co-founder of this course.

Let me weigh in on your response. Firstly to clarify, the faculty for The Difficult Airway Course: Anesthesia™ are for the most part anesthesiologists and nurse anesthetists. Emergency Medicine Physicians often teach some sessions, particularly the surgical airway parts.

Don't be too 'dumfounded'. I agree with the responses penned by Aaron and Ron. The situation is a tough one, but their recommendations are well founded in the interest of patient safety and consistent with the standard of care—no matter if one is in the OR, the ED or a helicopter.

Brain's initial notion in the mid 1980s was that the LMA would '...free the hands of the anesthetist' in the spontaneously breathing patient. However, as the device has evolved over the last 20 years, it is commonly used in paralyzed and ventilated low risk patients in the OR setting. It is not unreasonable to use it as a rescue device in the ED or the field when one is confident that ventilation can be maintained if the patient is given a neuromuscular blocking agent. Both Ron and Aaron adopted an appropriately cautious tone in their response.

I love a debate! Would love to see you at a course sometime so we can dissect this further.

Mike

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Dear James,

Thanks for the thoughtful letter. With your experience in EMS, you no doubt are aware that the “rules”, such as they are, are different than in other settings, and the use of rescue devices mandates a different set of decisions than use of that same device in an elective setting. That is the beauty of emergency airway management, for those of us who practice it every day; the ability to apply principles and experience to solve complex problems, sometimes using old devices in new ways, or new devices in ways perhaps not envisioned. The real key in a rescue situation is keeping the patient alive, and that requires us sometimes to look at different solutions. Fortunately, most emergency airway providers, whether they are anesthesiologists, CRNAs, emergency physicians, critical care physicians, paramedics, flight nurses, or others are nimble, calm, and creative under stress. Our recommendations and courses are as evidence based as the evidence supports. As you know, there are many problems that have not been studied in randomized prospective trials.

Thanks for sharing your thoughts with us. We are proud of our interdisciplinary airway management approach and our faculty of over 40 anesthesiologists, emergency physicians and CRNAs from three countries on two continents. We all work together to identify the best approaches and solutions, and then share these with providers worldwide. After all, whatever your training and experiential background, the patient is still the same patient.

Ron

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