Airway management as a core competence in emergency medicine

Airway management is a key skill for caring for critically ill patients in the emergency department (ED). Unlike traditional airway management in surgical operating theatre (OT), there are unique challenges to the ED setting: missing or unavailable key patient information (medical history or previous airway experiences), a diverse patient population (neonate to geriatric and pregnant to obese), physiological or anatomical derangements (sepsis and trauma) and constrained resources (equipment, staffing or training). In this issue of the Hong Kong Journal of Emergency Medicine, we showcase original articles dealing with these issues and recent developments in ED airway management.

One challenge often faced by ED physicians is a patient with fluid or foreign material in the upper airway (e.g. blood and vomited food). Ko et al. reported a novel technique using an upper airway suction catheter in simulated upper gastrointestinal (GI) bleeding situations. The new technique and suction catheter were shown to improve intubation success rates and reduce the amount of aspirated material. This technique is potentially applicable to patients who are having massive upper GI bleeding, an unfortunately common situation faced in East Asian EDs and worldwide.

In another simulation study, Hung and Wong examined how to improve patient positioning during intubation. Such positioning in the ED typically does not receive the same amount of attention compared to the OT setting. This is partly due to the lack of resources (equipment, personnel or time), but may also be due to lack of promulgation of such techniques in some emergency medicine training programmes. In their report, Hung and Wong demonstrated improved intubation times and better glottic views by putting the mannequin in a novel ramped position. The advantage of this position is that no additional equipment is needed other than elevation of the head of bed and is simple to achieve.

New intubation equipment are constantly being introduced. In this issue, we have two original articles involving video laryngoscopes. In a follow-up study by Wong et al., (part of the group responsible for the simulated massive GI haemorrhage article above), their group compared three video laryngoscopes in the setting of simulated massive haematemesis. It is well known that video laryngoscope performance can be easily compromised when there is fluid in the airway. In this study, they showed that with a novel suction catheter and special technique, video laryngoscopes are helpful in the management of emergency airway with massive haematemesis. Separately, in a retrospective analysis of nearly 300 intubations, Weng et al. found that video laryngoscopes level the playing field between novice and specialist in airway management when dealing with difficult airways. Weng et al. found that novices and specialists both had similar success rates. It was rather surprising to note the use of video laryngoscope was associated with reduced success rates compared with direct laryngoscopy when used by emergency medicine specialists. This may be due to unfamiliarity with the new devices among more senior emergency medicine physicians who were previously trained in direct laryngoscopy. This article adds to the current literature encouraging the widespread use of video laryngoscopy for greater ‘first-pass’ success rates.

Airway management is often considered a domain of anaesthesia. Anaesthesiologists have often been called upon to manage airways, even outside the OT. In the multidisciplinary management of severe trauma, anaesthesiologists were often tasked with managing the airway in the ED. In a retrospective analysis of trauma airway management, Tang et al. found that there was no difference in terms of survival or airway-related complications, after controlling for potential cofounders, between anaesthesiologists or emergency physicians during trauma resuscitations. While further prospective research may need to be done, anaesthesiologists may not need to be routinely called for trauma airway management, allowing them to concentrate on their normal OT work. Indeed, such arrangements are already common in American EDs.

As the specialty of emergency medicine rapidly develops, emergency physicians are taking up more and more responsibilities previously associated with other specialties. There are emergency physician-led trauma resuscitation teams, ED-based extracorporeal membrane oxygenation (ECMO)
programmes and ED-based endovascular aortic occlusion for trauma resuscitation. Thanks to the latest research and practice protocols, we believe ED airway management can and will be the domain of emergency physicians moving forward.

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