EMERGENCY CASEBOOK

Out-of-hospital use of intubating laryngeal mask airway for difficult intubation caused by cervical dislocation

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The intubating laryngeal mask airway (ILMA) has become a standard tool for difficult airway management in the operating room. Recent reports have outlined interest in its use in the emergency department setting.¹ To date, there are few reports of out-of-hospital ILMA use.² We describe here an out-of-hospital case of difficult airway, in the context of major cervical trauma, successfully managed with the ILMA.

CASE REPORT

A mobile medical intensive care unit was called to the scene of a motorcycle accident. The motorcycle driver had been hit by a car at high velocity. The patient, a 35-year-old man, was ejected 35 m from the point of impact. The basic life-support team that reached the accident scene first found the patient lying on the ground with extreme respiratory distress. Because this progressed rapidly to respiratory arrest, a facial bag mask ventilation was initiated, but with major difficulties in obtaining an adequate seal. On arrival at the medical intensive care unit, 5 min after the onset of respiratory arrest, the patient was in cardiac arrest. Two attempts at rapid tracheal intubation attempts under direct laryngoscopy were unsuccessful, and the glottic aperture could not be visualised by the operator because of pharyngeal swelling. Another intubation attempt using a gum elastic bougie failed. A size 4 ILMA was then inserted. Ventilation was effective through ILMA, and the patient recovered a cardiac activity after 5 min of ventilation, external cardiac massage and 3 intravenous epinephrine injections of 1 mg each. During transport to the hospital, two blind intubation attempts through ILMA were unsuccessful because of a sensation of resistance during tube insertion. Ventilation through ILMA was considered effective, with arterial oxygen saturation remaining >96% and capnography remaining

>25 mm Hg. In the emergency room, the patient was intubated through the ILMA using a fibroscope as a guide. A total body tomodensitometry was performed, which showed a C2–C3 dislocation with important anterior cervical haematoma (fig 1), severe bilateral pulmonary contusion and diffuse cerebral oedema.

DISCUSSION

We report here on a case of out-of-hospital use of ILMA when other methods of intubation and ventilation failed.

Clinical experience with the ILMA in the case of an unexpected difficult airway is now very important in the operating room.^{3–4} This device is particularly efficient since it allows ventilation in 98–100%, and intubation in up to 95% of patients with difficult airways.⁴ ILMA has previously been used with success in patients with distorted airways caused by radiation or cervical surgery.⁴ In the case of upper airway distortion, as in our patient, the use of a fibroscope is often mandatory to allow intubation through the ILMA.⁴

We have used the ILMA according to a difficult airway management algorithm already validated in the operating room.³ This strategy has been exported to our out-of-hospital emergency medical department. Gum elastic bougie and ILMA are the two cornerstones of this algorithm. The gum elastic bougie allows rapid tracheal intubation in most cases. The ILMA is the second step of this algorithm. Our case report illustrates the potential of the ILMA as a rescue device when both intubation and facemask ventilation are impossible in an emergency out-of-hospital setting because of upper airway distortion.

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Informed consent was obtained for publication of the person's details in this report.

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Figure 1 CT scan showing a C2–C3 dislocation with a massive anterior cervical haematoma (1). The pharynx and the larynx are compressed by the haematoma. The intubating laryngeal mask airway (2) and the tracheal tube (3) are visualised.

Abbreviation: ILMA, intubating laryngeal mask airway