

Prehospital airway management with the Laryngeal Tube Suction (LTS®) during CPR in a patient with known difficult airway

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Introduction: Endotracheal Intubation remains the gold standard for securing the airway, but fails in 1% of prehospital patients. (1) In-hospital face mask ventilation proves difficult in 5% of patients, in 0,1% adequate ventilation is not possible. (2) Alternatives to intubation and facemask ventilation must be part of the standard equipment of services providing advanced life support to allow management of out-of-hospital difficulties. The Laryngeal Tube Suction LTS® has been discussed as an alternative device for airway management. (3) It was introduced in our physician-staffed ACLS system in 2002 as part of a prehospital difficult airway concept. The successful use of the LTS® in a patient with known difficult airway during out-of-hospital CPR is described.

Case report: The emergency physician (5 years experience in anaesthesiology) responds to a 63year old male patient (175 cm, ca. 100 kg) found unconscious on the floor by his wife. The initial ECG shows ventricular fibrillation and CPR is started immediately following ILCOR guidelines. Face mask ventilation is possible but difficult. After two intubation attempts by the emergency physician that fail due to inability to visualize the epiglottis, the wife remembers that she was told by an anaesthetist during a prior hospital stay that her husband cannot be intubated. When face mask ventilation becomes increasingly difficult, the emergency physician decides to place a LTS® (Size #4). Placement is successful in the first attempt, followed by sufficient bag ventilation (bilateral breath sounds, no gastric insufflation of air detectable by auscultation, positive capnometry reading). A gastric tube is placed through the second lumen of the LTS, air and gastric contents can be suctioned. After approximately 15 minutes of CPR (defibrillation twice with 200 J, 4x 1 mg epinephrine i.v.), return of spontaneous circulation is achieved (pulse 80/ min, blood pressure 100/ 50mmHg, SpO2 96%). The patient is transported to the ICU where nasotracheal fiberoptic intubation is performed at the ICU with the deflated LTS in place. The patient dies 12 hours later due to the massive myocardial infarction that caused the cardiac arrest.

References: 1. Adnet F. Ann Emerg Med 1998;32:454-60. 2. Langeron O. Anesthesiology 2000;92:1229-36. 3. Genzwuerker HV. Resuscitation 2002;55:62