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Use of the LMA® Gastro™ Airway, a novel dual channel laryngeal mask airway, for endoscopic retrograde cholangiopancreatography: a report of two cases

The LMA® Gastro™ Airway has several features that make it a suitable airway management device for ERCP procedures performed under general anesthesia

The LMA® Gastro™ Airway was used successfully in two ERCP cases, achieving functional separation of the gastrointestinal and respiratory tracts, and facilitating passage of the endoscope

Objective

To report the outcomes of two endoscopic retrograde cholangiopancreatography (ERCP) procedures performed under general anesthesia with the LMA® Gastro™ Airway used for airway maintenance

Methods

- Two patients, an obese 73-year-old female (body mass index [BMI] 35 kg/m^2) and a 72-year-old male of normal BMI (24 kg/m^2), underwent ERCP procedures following provision of written informed consent
- In the operating room, the patients positioned themselves in the semi-prone position for the ERCP procedures
- Induction of general anesthesia was performed with fentanyl and propofol
  - Neuromuscular blockers were not utilized
- Once general anesthesia was established, a size 4 LMA® Gastro™ Airway was placed and the ERCP procedure commenced

Results

- In both cases, the LMA® Gastro™ Airway was inserted successfully on the first attempt
  - Insertion was completed promptly and without difficulty in the prone position
  - In both cases, the patients' airways remained unobstructed for the duration of the procedure
  - Effective separation of the gastrointestinal and respiratory tracts was achieved in both patients
- In both cases, the maintenance of anesthesia was uneventful
- On completion of the procedure, the patients were turned to the supine and the LMA® Gastro™ Airway was removed on emergence before the patients were transferred to the recovery room
- Both patients were discharged within 90 minutes of entering recovery

Conclusions

- There is currently no consensus on whether ERCP procedures should be performed under general anesthesia (with an endotracheal tube or laryngeal mask) or sedation alone (no airway management device), with advantages for both techniques (Table 1)

Table 1. Advantages of ERCP performed under general anesthesia or deep sedation

GENERAL ANESTHESIA	DEEP SEDATION
Reduced risk of cardiopulmonary complications versus deep sedation	Improved operating room efficiency versus general anesthesia
Lower failure rate versus deep sedation	Enables patient cooperation during ERCP procedures
Reduced patient discomfort versus deep sedation	Improved patient satisfaction versus general anesthesia

† Co-developer of the LMA® Gastro™ Airway and paid consultant of Teleflex receiving royalty payments for the LMA® Gastro™ Airway.

- The LMA® Gastro™ Airway has several features that makes it a suitable airway management device for ERCP procedures performed under general anesthesia (Table 2)

Table 2. Features and benefits of the LMA® Gastro™ Airway

1	Large bore channel (14 mm) to facilitate passage of an endoscope
2	Separate ventilation channel that can be used to monitor end-tidal carbon dioxide
3	The dual channels are designed to achieve functional separation of the gastrointestinal and respiratory tracts
4	Designed to help secure the airway, prevent airway obstruction, and facilitate positive pressure ventilation in the prone position

- In this report, the LMA® Gastro™ Airway was used successfully in two patients undergoing ERCP procedures under general anaesthesia and provided a viable alternative to a standard laryngeal mask
- Given the potential for airway management complications during an ERCP, the LMA® Gastro™ Airway may be an alternative airway management option to help secure the airway, prevent airway obstruction, and facilitate positive pressure ventilation in the prone position