The laryngeal mask airway supreme™ versus the tracheal tube as a ventilatory device in elective laparoscopic cholecystectomy – A prospective randomized trial

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Aims:
We hypothesized that the use of the Laryngeal Mask Airway Supreme™ (LMA-S) in patients undergoing elective laparoscopic cholecystectomy is associated with greater ease of insertion and reduced haemodynamic variability during insertion, compared to endotracheal intubation.

Methods:
After ethics approval and written informed consent, 76 ASA 1 & 2 patients aged 21-80 years undergoing elective laparoscopic cholecystectomy were prospectively randomized to receive either LMA-S or endotracheal intubation (40 LMA-S; 36 ETT). Exclusion criteria included BMI > 30, known GERD, or contraindication to drugs in the standardized anaesthesia protocol. Independent, trained observers recorded all outcomes. Primary outcome was time to effective airway (TTEA), evidenced by end-tidal capnography. Secondary outcomes were number of attempts taken for successful placement of airway device and gastric tube, haemodynamic response to insertion, and incidence of post-operative sore throat.

Results:
Baseline characteristics were similar in both groups. There were 2 crossovers from LMA-S to endotracheal intubation due to significant leak at induction. All patients were adequately ventilated. Using intention-to-treat analysis, TTEA in the LMA-S group was faster [31.2 (SD 27.8) vs 71.4 (49.9) seconds, mean difference 40.2 (95% CI 21.3-59.1; p=0.0001)]. First time insertion success rates were higher for the LMA-S (Airway device: 38/40 vs 26/36, p=0.01; Gastric tube: 38/40 vs 24/36, p=0.002). The LMA-S was associated with less haemodynamic changes at 1 & 5 minutes after insertion, and less post-operative sore throat [4/40 (10%) vs 10/36 (27.8%); p=0.046].

Conclusion:
The LMA-Supreme is an appropriate alternative to endotracheal intubation in selected patients undergoing elective laparoscopic cholecystectomy.

References: