

ABSTRACT

Title

Comparison of haemodynamic stress response during insertion of LMA Supreme versus I-gel in patients undergoing short surgeries under general anaesthesia.

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Keywords

General anaesthesia, Supraglottic airway devices, LMA-Supreme, I-gel, airway, Sore throat, post operative.

Case Report

The Supraglottic airway devices have revolutionized anaesthesia practice and are now increasingly being used as an excellent alternative to mask ventilation and endotracheal intubation with minimal complications.

This study was conducted at a medical college in South India to compare the hemodynamic stress response during insertion of LMA-Supreme versus I-gel in patients undergoing short surgeries of 1 hour duration under GA along with their ease of insertion and postoperative morbidity like blood on removal of device and sore throat.

This randomized, prospective, comparative interventional study was conducted in eighty patients between 18-60 years of age, of either gender, weight 50-90 kgs, ASA I & II after approval of institutional ethical committee and with informed consent. Group I- I-gel and group II-LMA Supreme with 40 patients each by slips in box technique. Premediation was given with inj midazolam 0.03mg/kg, glycopyrrolate 5 mcg/kg, fentanyl 2mcg/kg and induced with inj propofol 2.5 mg/kg.

No muscle relaxant was used, LMA – supreme or I-gel was inserted. The ease of insertion and number of attempts of insertion were noted. If number of attempts were more than 4 it was considered a failure and patient was intubated with endotracheal tube. Anaesthesia was maintained with seroflurane 1 mac, 33% O₂ and 67% N₂O on spontaneous assisted ventilation. The heart rate, mean arterial pressure, diastolic and systolic blood pressures, SPO₂, ETCO₂ were noted before, at insertion, 1, 3,5 min after insertion and at removal of device.

After end of surgery, LMA was removed and was examined for blood staining. Post operatively patients were questioned about sore throat in recovery room and also 24 hours postoperatively.

Statistical Analysis

Descriptive statistics was done for all data and were reported in terms of mean values and percentages. Continuous variables were analysed with unpaired t test. Categorical variables were analysed with Chi-square test and Fisher exact test. Statistical significance was taken as $P < 0.05$. The data was analysed using SPSS version 16 and Microsoft excel 2007.

The study did not limit / standardize or record the use of peri operative analgesics. We also did not use fiberoptic bronchoscope to confirm the position of the airway device. We studied only low risk patients (ASA I & II) who had normal airways and were mostly not obese.

Results

Statistical analysis showed both I-gel & LMA Supreme had comparable performance. The I-gel was easier to insert and required lesser attempts of insertion when compared with LMA-Supreme. The I-gel's non-inflatable thermoplastic elastomer cuff fitted snugly creating a good anatomical seal. Both LMA-Supreme and I-gel did not cause any significant haemodynamic instability during insertion & removal. Postoperative morbidity- blood on removal, sore throat was less observed with I-gel as non-inflatable cuff probably decreased the risk of airway tissue compression. Both I-gel and LMA-Supreme showed no incidence of severe airway trauma, such as stridor, laryngospasm, bronchospasm, hypoxia or aspiration.