

Adequacy of Second-Generation Laryngeal Mask Airway during Prolonged Abdominal Surgery

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Abstract : Purpose: We aimed to evaluate the adequacy of second-generation laryngeal mask airway use during prolonged abdominal surgery in respect of ventilation, oxygenation, postoperative pulmonary complications (PPC), and postoperative non-pulmonary complications on living donor kidney transplant (LDKT) surgery. Methods: In total, 257 recipients who underwent LDKT using either laryngeal mask airway-ProSeal (LMA-P) or endotracheal tube (ETT) were retrospectively analyzed. Arterial partial pressure of carbon dioxide (PaCO₂) and ratio of arterial partial pressure of oxygen to fractional inspired oxygen (PFR) during surgery were compared between two groups. In addition, PPC including pulmonary aspiration and postoperative non-pulmonary complications including nausea, vomiting, hoarseness, vocal cord palsy, delirium, and atrial fibrillation were also compared. Results: PaCO₂ and PFR during surgery were not significantly different between the two groups. PPC was also not significantly different between the two groups. Interestingly, the incidence of delirium was significantly lower in the LMA-P group than the ETT group (3.0% vs. 10.3%, P = 0.029). Conclusions: During prolonged abdominal surgery such as LDKT, second-generation laryngeal mask airway offers adequate ventilation and oxygenation and can be considered a suitable alternative to ETT.

Keywords : laryngeal mask airway, prolonged abdominal surgery, kidney transplantation, postoperative pulmonary complication

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