

Intravenous Lidocaine Reduces Systemic Inflammation but Not Myocardial Injury Following Thoracic Surgery for Lung Cancer: A Randomized Controlled Trial

Appendix S1: Ideal Body Weight (IBW) Calculation Formula

The formula used to calculate the ideal body weight (IBW) for patients with a Body Mass Index (BMI) of 25 kg m⁻² or higher was as follows:

- For male patients: IBW (kg) = Height (cm) - 100
- For female patients: IBW (kg) = Height (cm) - 105

Appendix S2: Detailed Standardized Anesthesia and Intraoperative Management Protocol

A standardized anesthesia protocol was strictly enforced for all enrolled patients to minimize variability.

1. Pre-anesthesia and Monitoring:

Patients did not receive preoperative sedation or analgesia. Upon arrival in the operating room, standard monitoring was established, including electrocardiography, pulse oximetry, non-invasive blood pressure (or invasive arterial monitoring if required), and bispectral index (BIS). Central venous access was established via an internal jugular vein puncture.

2. Anesthesia Induction and Intubation:

Following preoxygenation with 100% oxygen, general anesthesia was induced with midazolam (5 mg), propofol (1.5 to 2 mg kg⁻¹), and sufentanil (0.5 µg kg⁻¹). Rocuronium (0.9 mg kg⁻¹) was administered to facilitate endotracheal intubation. A double-lumen bronchial tube (F35 or F39) was inserted orally under fiberoptic bronchoscope guidance.

3. Intraoperative Maintenance and Ventilation:

After patient positioning, one-lung ventilation was initiated on the non-operative lung. Ventilator settings included a tidal volume of 6 to 8 ml kg⁻¹, a positive end-expiratory

pressure (PEEP) of 5-10 cm H₂O, and adjustments to respiratory rate and inhaled oxygen concentration to maintain an end-tidal CO₂ (PetCO₂) of 35-45 mmHg and SpO₂ ≥ 90%. Lung recruitment maneuvers were employed as needed. Anesthesia was maintained using a target-controlled infusion of remifentanyl and propofol to keep BIS values between 40 and 60.

4. Hemodynamic and Fluid Management:

Heart rate and blood pressure were maintained within 20% of baseline levels, with additional doses of sufentanil or rocuronium administered as required. Fluid resuscitation was performed with Acetate Ringer's solution and hydroxyethyl starch. Hypotension (low mean arterial pressure or cardiac index) was managed with vasopressors such as phenylephrine, dopamine, or norepinephrine.

5. End of Surgery:

To prevent postoperative nausea and vomiting, ondansetron (4 mg) was administered intravenously at the end of the surgical procedure.

Appendix S3: Postoperative Patient-Controlled Intravenous Analgesia (PCIA) Regimen

Following extubation and transfer to the post-anesthesia care unit (PACU), all patients received a standardized PCIA regimen.

1. Formulation: The PCIA pump contained a 100 ml solution of 0.9% saline with the following medications: 1) Sufentanil: 100 µg. 2) Dezocine: 10 mg. 3) Ondansetron: 8 mg
2. PCIA Settings: The pump was configured with the following parameters, tailored to the individual patient's condition: 1) Background Infusion Rate: 0.5 to 1 ml h⁻¹. 2) Bolus Dose: 2 to 4 ml. 3) Lockout Interval: 15 minutes.